

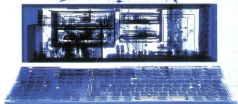
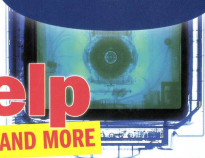
apc

HIGH-PERFORMANCE COMPUTING

APRIL 2005

Professional help

Lost passwords, SP2 problems, bootable USB drives **AND MORE**



Linux shootout

Fedora, Mandrakelinux, SUSE and other distros battle it out

Plus sub-\$400 graphics cards compared

Centrino revamped

First Sonoma notebook reviewed

Workshops

- > Make IE secure without SP2
- > Look up ABNs automatically
- > Create an autorun CD/DVD

Brother vs Lexmark

Multifunction devices
with photo
printers



ISSN - 0725-4415

Print Prod Approved
FP25500300559
\$9.80 inc GST
NZ \$9.95 inc GST



9 313006 001362

7 CDs' worth of software on **apc DVD ROM**

@MAIL

Set up your own
Webmail
server.

As sold for
\$520

Complete
turnkey system

10-user licence for Linux and Windows.



Mandrakelinux 10.1

The latest version of the
most user-friendly
Linux distro.

2.05GBs worth of
ISO files to create
install discs.



VideoWave Movie Creator

Intuitive video editor from
Roxio. Capture, edit and burn
your home movies to CD.

Magazine distribution version.

MultiNetwork Manager 7

No more laptop network
configuration pain.
Detects and connects to
multiple networks with
one click.

Full-working commercial
version, exclusive to APC.



Half-Life 2

751MB playable demo.
Selected levels available.



Delphi 2005 Architect

30-day trial
of Borland's
ultimate Delphi
development
environment.

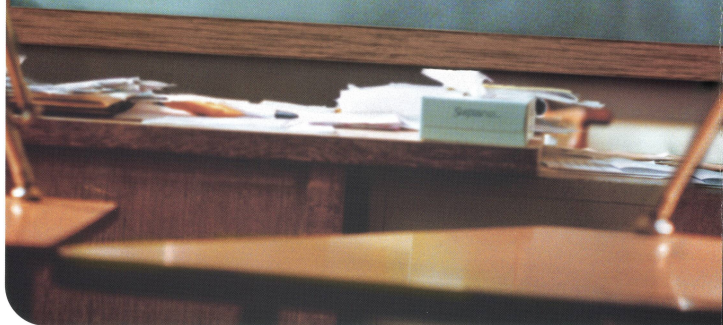


Full contents inside magazine

If you don't have a DVD drive, we can mail you a CD of selected programs
from this DVD (see Contents, page 8). Details at www.apcmag.com/cdmail.

Use of this disc and its content is subject to the disclaimer on the back of this case and on the DVD and any applicable third party license terms.

next time you
have a question
don't put
up your hand.



You can contact
Kids Help Line 24x7 on
1800 55 1800 or go to
kidshelponline.com.au

It's a free, confidential
and anonymous
counselling service
for kids.

Optus is proud to help kids connect to Kids Help Line.

KIDS
HELP LINE



'yes'
OPTUS

Just say the word **'yes'**
OPTUS

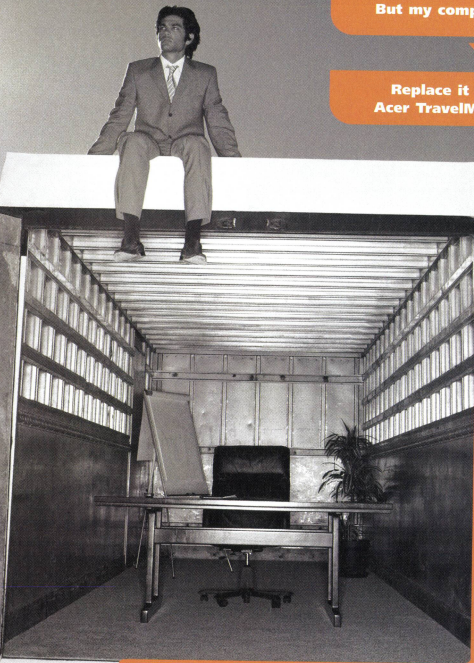
OPTS120/APC

acer

**I want to work at
full capacity wherever I go.**

But my computer is too big.

**Replace it with the new
Acer TravelMate 8104WLMi.**



Call Rent-a-truck every time.

**With all the productivity and
performance of a premium desktop.**



All the features and performance you'll ever need.

TravelMate 8104WLMi

- Intel® Centrino™ Mobile Technology
- Intel® Pentium® M Processor 760 (2.0GHz, 2MB L2 cache, 533MHz FSB)
- Intel® PRO/Wireless Network Connection 802.11a/b/g
- Intel® 915PM Express Chipset
- Microsoft® Windows® XP Professional
- 1024MB DDR2 SDRAM
- 80GB hard disk drive
- DVD Super Multi Dual Layer drive
- SignalUp high-performance wireless
- ATI® 128MB Mobility Radeon X700
- 15.4" WXGA - widescreen display
- 56k modem + broadband-ready* 10/100/1000 LAN + Bluetooth
- FireWire®-Video
- 5-in-1 card reader

ATI® MOBILITY RADEON X700
128MB GRAPHICS

The amazing new Acer TravelMate 8104WLMi notebook gives you the capabilities of a premium desktop with the mobility of a cutting-edge notebook. So why compromise, when you can get Intel® Centrino™ Mobile Technology, Microsoft® Windows® XP Professional, superior graphics on a 15.4" widescreen with a 30% greater viewing area, SmartCard security for investment protection, and SignalUp wireless technology that delivers 25% greater signal strength for the ultimate in mobile computing? It's everything you need to deliver, job after job. Call or visit your Acer dealer now.

\$4,499

RRP inc GST
Custom Rent: \$34.23 per week*

Ground-breaking
performance

Darren Yates,
Australian PC User Magazine
March 2005

Acer recommends Microsoft® Windows® XP Professional.

MOBILITY, PERFORMANCE AND VALUE



TravelMate 4002WLMi

- Intel® Centrino™ Mobile Technology
- Intel® Pentium® M Processor 725 (1.6GHz, 2MB L2 cache, 400MHz FSB)
- Intel® PRO/Wireless Network Connection 802.11b/g
- Intel® 855GME Chipset
- Microsoft® Windows® XP Home
- 15.4" active colour widescreen
- 512MB DDR SDRAM
- 60GB HDD
- DVD Dual (burns and plays DVDs and CDs)
- SignalUp high-performance wireless
- FireWire & S-Video
- 56kbs modem + broadband-ready* 10/100 LAN

UPGRADE TO

- Microsoft® Windows® XP Professional for \$150*

SIGNALUP
HIGH-PERFORMANCE
WIRELESS
TECHNOLOGY

RRP inc GST
Custom Rent: \$17.43 per week*

\$2,299

SPACE SAVING, GREAT VALUE



AcerPower SK20

- Intel® Celeron® D Processor 330 (2.66GHz, 256KB L2 cache, 533MHz FSB)
- Microsoft® Windows® XP Home
- 256MB PC3200 DDR SDRAM
- 40GB 7200rpm HDD
- CD-RW drive
- Optical mouse
- Integrated AC655 Audio
- Integrated 10/100 LAN
- 1-year on-site warranty

BUY BEFORE 31/03/05 AND RECEIVE A FREE UPGRADE TO INTEL® CELERON® D PROCESSOR 335 (2.8GHz, 256KB L2 CACHE, 533MHz FSB)

UPGRADE TO

- Microsoft® Windows® XP Professional for only \$99*
- DVD Combo for only \$35
- 16x DVD burner (dual layer) for only \$80

ADD AN ACER 17" AL1715M LCD MONITOR FOR ONLY \$649
ADD AN ACER 15" AL1511M LCD MONITOR FOR ONLY \$559

RRP inc GST
Custom Rent: \$5.32 per week*

\$699

ULTRA-PORTABLE TABLET PC



TravelMate C113TCi

- Intel® Centrino™ Mobile Technology
- Intel® Pentium® M Processor ULV 753 (1.2GHz, 2MB L2 cache, 400MHz FSB)
- Intel® PRO/Wireless Network Connection 802.11b/g
- Microsoft® Windows® XP Tablet PC Edition 2005
- 10.4" XGA TFT with 180° rotation + pen input support
- 512MB SDRAM
- 60GB removable HDD
- External DVD + CD-RW combo
- Weighs 1.45kg
- 56kbs modem + 10/100 Ethernet adaptor (Broadband-Ready*)
- Integrated Bluetooth

BUY BEFORE 31/03/05 AND RECEIVE A FREE COPY OF MICROSOFT® ONENOTE 2003 VALUED AT \$80

UPGRADE TO

- Microsoft® Office® 2003 Professional for only \$552*

LIGHTEST CONVERTIBLE
TABLET PC

RRP inc GST
Custom Rent: \$26.62 per week*

\$3,499

Boost your wireless connection with Acer SignalUp.

A breakthrough that boosts wireless performance by a minimum of 25%* You get a more stable signal and higher-quality wireless connection outdoors and in the most difficult indoor environments.

*Source: RMIT Test Labs, August 2004.



Call 1300 769 601

Mon to Fri 8am - 7pm. Sat and Sun 10am - 4pm.

Visit www.acer.com.au or an authorised dealer.



MOBILE
TECHNOLOGY

Intel, Intel logo, Intel Inside logo, Intel Centrino, Intel Centrino logo, Celeron, Intel Xeon, Intel SpeedStep, Itanium, and Pentium are trademarks or registered trademarks of Intel Corporation or its subsidiaries in the United States and other countries. ©2005 Acer, Inc. All rights reserved. Acer and the Acer logo are registered trademarks and AcerPower, Veriton, TravelMate and Aspire are trademarks of Acer Inc. All other products, brand names, company names and logos are trademarks of their respective companies. Pictures are for illustrative purposes only. *While stocks last. **Available on return to base products only. *Broadband Modem and Service Agreement required. *Rental amounts shown are indicative and based upon a 36-month rental contract and rates at time of publication; all state and federal government charges (Stamp Duty & GST) included. Rental figures quoted are for business use only and require a minimum purchase of \$2000 on GST. All rentals are subject to credit approval. Advertisements valid until 31 March 2005. Provided by Australian Integrated Finance Pty Ltd. Individual dealers may offer alternative financing options. Prices and product specifications are subject to change without notice. All efforts will be made to check for errors in typography and photography; however inadvertent errors may occur for which Acer may not be responsible.

AC3109

Your potential. Our passion.™
Microsoft



NAME

**Mr. 500 Servers
in 156 Countries
Managed from
1 Location**



**Department of
Foreign Affairs,
Switzerland**

"We have 3,000 PCs based everywhere from Argentina to Vietnam, and now our team can update them all from headquarters."

Viktor Portmann

Project Manager, Department of Foreign Affairs, Switzerland

Make a name for yourself with Windows Server System.

Microsoft Windows Server System makes it easier for Switzerland's Federal Department of Foreign Affairs (DFA) to manage the infrastructure serving their embassies and consulates in 156 countries. Here's how: By using Systems Management Server 2003 and Microsoft Operations Manager 2005, DFA can automatically update its 500 remote servers from a central location, saving over \$780,000 in travel expenses alone in the past year. They've also been able to reduce the time and cost of maintenance, boost user productivity, and find the time to better prepare for expansion. Software that's easier to manage is software that helps you do more with less. To get the full DFA story or to find a Microsoft Certified Partner, go to microsoft.com.au/wss



Windows Server System™ includes:

Server Platform	Windows Server™
Virtualisation	Virtual Server
Data Management & Analysis	SQL Server™
Communications	Exchange Server
Portals & Collaboration	Office SharePoint™ Portal Server
Integration	BizTalk™ Server
Management	Systems Management Server Microsoft® Operations Manager
Security	Internet Security & Acceleration Server

Plus other software products

Toshiba. The new model release.



Tecra M3



Tecra S2



Tecra A3



Tecra A4

OBSERVATION: The technology is here for notebook computers to take the next great leap.

OBJECTIVE: Take Toshiba's renowned engineering and design, rugged protective features, thermal management expertise and connectivity; add the latest processing technology, and incorporate it into new model notebooks that take the idea of portability, and transport it.

RESULT: New models:

Tecra M3, encased in tough magnesium alloy, it's the lightweight notebook built for business.

Tecra S2, high performance, a long product cycle and a consistent software image mean lower total cost of ownership.

Tecra A3, feature-packed notebook with the option of Intel® Centrino™ Mobile Technology for connectivity on the move.

Tecra A4, the widescreen desktop alternative; portable productivity with graphics accelerator and super-connectivity.

Portégé M300, the sleek, ultra portable, with its unique 3 dimensional drop detection sensor and long battery life*.

The Portégé M300 is not only 'freefall tested' onto a steel slab, its 3D accelerometer sensor detects movement in any axis and is designed to retract the heads, protecting data on the Hard Disk.



Portégé M300

CONSIDERATION: Mobility. It's all we do, so we think it through.

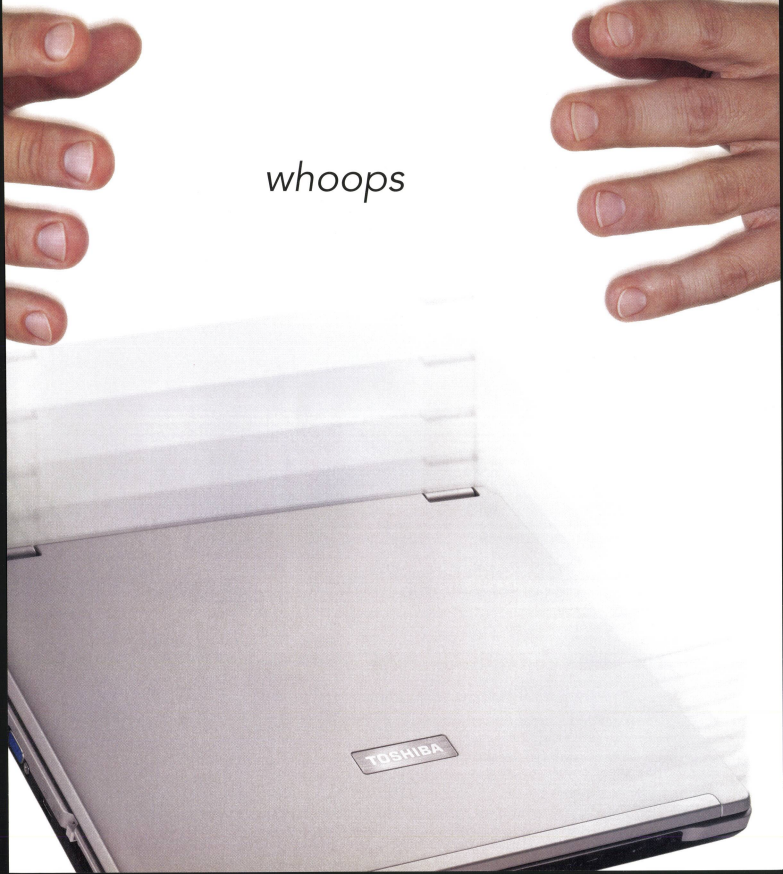
ACTION: For more information on these models as well as the stunning Portégé M200 Tablet PC and the ultimate ultra portable Portégé R100 Notebook PC, see your nearest Toshiba Authorised Reseller, visit www.isd.toshiba.com.au or call 13 30 70.

TOSHIBA

Toshiba recommends Microsoft® Windows® XP Professional.



whoops



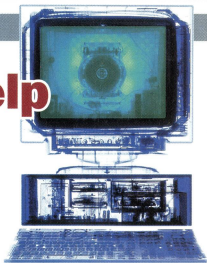


This month's cover stories

Professional help

Computing regularly throws up challenges that stump even the experts. APC's technical writers have identified some of the more common PC and programming problems and found the solutions for you.

80



Linux shootout 56

How do major Linux distros stack up for businesses and enthusiasts? Anton Tomazin and Caroline Leming road test eight contenders.

Sub-\$400 graphics cards 66

Valens Quinn checks out 10 graphics cards with gaming in mind.

Centrino revamped 34

Intel's new mobile platform promises to make life easier and richer for notebook users. Matthew Overington puts the claims to the test.

Workshops 102

James Bannan explains how you can benefit from SP2's IE security updates without implementing the Service Pack. David Williams demonstrates how businesses can use a new Web service to validate ABNs. Daniel Winter creates an autorun menu for a data discs with a free menu building app.

Brother versus Lexmark 40

Lexmark has produced a user-friendly photo printer and scanner for the amateur photographer. Brother's latest MFD is the ultimate jack of all trades, and great value to boot.

Fighting the spam mutants 96

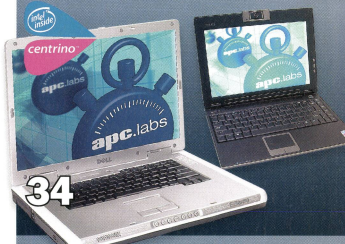
Professional spammers have a multitude of new tricks up their sleeves as they counteract ongoing attempts to shut them down.

Best of the blogs 22

Are blogs democracy in action or just another platform for the opinionated? Both — and all the better for it. APC's staff have sorted through the masses and recommend the top tech blogs.



56



34



96

On Test



Reviews

Hardware

- Sonoma chipset
- Lexmark P6250 Photo Center
- Brother MFC-620CN
- PowerColor Radeon X850 XT and X850 XT Platinum Edition
- ABIT Radeon 9250-ADT
- Samsung 913N TFT monitor
- PalmOne Treo 650 smartphone
- Symantec Ghost Solution Suite
- Borland Delphi 2005
- Sony ACID Pro 5.0
- Microsoft Windows AntiSpyware Beta
- Google Picasa 2
- Mac OS X 10.4 "Tiger"
- Acer TravelMate 382TCi
- Infinite C240-64 Workstation
- All the top products in their fields

Software

System

Best buy

apc Labs Challenges

Hardware

- Sub-\$400 graphics cards
- Small form factor barebones PCs

Software

- Linux distros

Beta Challenge

- Desktop search tools

Starts page 33

Need to Know

Technotes

- Pirate site SuprNova burns out

Exchange

- Stan Ng

Feature

- Best of the blogs

Opinion

- Paul Wallbank
- Mary Jo Foley

Watchdog

- Customer service issues

Epinions

- Readers' letters

Starts page 15

WORKSHOP

Programming

- ABN Lookup

Windows XP

- IE update

Security

- Sender ID

Internet

- Download quotas

Multimedia

- DVD authoring, pt 2
- Autorun CD/DVD

Handhelds

- Portable movies

Software

- @mail server

Linux

- Mastering Linux, pt 5

Starts page 102

Downtime

Gear

- Notebook speakers
- Bluetooth keyboard and mouse
- 2.2GB Microdrive
- Shop the States
- Smartphones
- iPod tube amplifier
- MP3 player/photo album

Books

- Excel Timesaving Techniques
- The Power of Many
- The Cult of Mac
- Caution! Wireless Networking and more

Games

- Sid Meier's Xpates
- Armies of Exigo
- CSI: Miami

Starts page 121

Subscribe now
for your chance to

WIN!

1 of 4

NAVMAN
PiN Pocket PCs

See page 65



PRIVACY NOTICE

This issue of APC published by APC Publishing Pty Ltd (APC) may contain offers, competitions or surveys which require you to provide information about yourself if you choose to enter or take part in them (Reader Offer). If you provide information about yourself to APC, APC will use this information to provide you with the products or services you have requested, and may supply your information to the contractors who help APC to do this. APC will also use your information to inform you of other APC publications, products, services and events. APC may also give your information to other organisations that are providing special prizes or offers and that are clearly associated with the Reader Offer. Unless you tell us not to, we may give your information to other organisations that may use it to inform you about other products, services or events, or to give to other organisations that may use it for this purpose. If you would like to gain access to the Information APC holds about you, please contact APC's Privacy Officer at APC Publishing Pty Ltd, 54-58 Park Street, Sydney NSW 2001.

7 CDs' worth of software on DVD ROM

Mandrakelinux 10.1

2.05GB on disc

Mandrakelinux is the most popular desktop OS for users new to Linux, largely for its Windows-like interface and installation. This is the basic three-CD install set of the current 10.1 version, which comes with a centralised configuration system, advanced hardware detection and several preconfigured security levels. Burn the ISO files to CD to create the installation discs.

PLEASE NOTE: During the installation process a dialog box will appear asking you to insert a fourth CD labelled "Installation CD 4 (KDE 3.3)". Press cancel and the install will proceed normally.

Roxio VideoWave Movie Creator LE

VideoWave Movie Creator is a wizard-driven video editor for capturing, editing and encoding home movies. It even lets you burn the finished movie to CD in VCD format. This is a special magazine distribution version from Roxio that is almost identical to the commercial version, lacking only some editing special effects and the facility to encode to MPEG-2 format.

MultiNetwork Manager 7.2



MultiNetwork Manager 7.2 is an essential program for anyone who regularly connects their laptop to different computer networks, from office LANs to wide area networks. It automatically detects available network settings and stores them in a profile which can be activated with one click, making it easier to roam between different network locations.



Full DVD Index



This logo indicates a free, complete and unrestricted software package, available only on APC's cover CDs.



When you see this icon in APC, it means there's bonus software on the cover discs.

Need help?

- While we've taken all care in selecting the software and testing the DVD, APC cannot accept responsibility or liability.
- APC does not provide technical support for programs included on the DVD.
- Technical problems? Email: dvd@apcmag.com

- @Mail 4.03: free 1.0-user licence
- Ad-Aware SE Personal Edition 1.05
- Adobe Reader 7.0
- ATI Catalyst Display Drivers 5.1
- Autoruns
- AVG Anti-Virus Free Edition 7.289
- AvSynth...255
- Bart's PE Builder 3.1.3
- Belarc Advisor
- BeSweet GUI
- BeSweet v1.4
- BigFix Consumer Edition v1.7.6.0.
- Boingo Wireless
- Borland Delphi 2005 Architect trial
- Borland Delphi 2005 Feature Matrix PDF
- Borland Delphi 2005 System Requirements PDF
- Borland Delphi 2005 Technical Overview PDF
- Buzzsaw v2.0.0.2
- CD Burner Pro XP 3.0.116
- Copernic Desktop Search 1.2.0.519
- DivX 5.2.1 (Installer)
- DVCap Version 1.1.1

- DVD Author
- DVD Decrypter 3.5.2.0
- DVD to Pocket PC
- DVDIO ver 1.32
- Emergency Boot CD-ROM Pro 6.0.1
- Ethereum 0.0.0.9
- ExplorerView 2.2
- Express Assist 7
- Google Picasa 2.0
- Half-Life 2 demo
- HD Tune
- IfoEdit v0.96
- Intel INF Update Utility 6.3.0.1007
- Intel HD Audio Controller Driver (Realtek Codec) 5.10.0.5034
- Intel 915 and 925 Marvell Yukon Gigabit Ethernet Controller Driver 7.24.1.3
- Intel Application Accelerator Driver for 915 and 925 Chipset Based Motherboards 4.6.0.6758
- Intel RAID Windows Install Floppy Disk 4.6.0.6758
- ISYS:desktop 6
- Linux Kernel 2.6.10

- Macromedia Flash Player 7.0.19.0 for Internet Explorer/AOL (Windows)
- Macromedia Flash Player 7.0.19.0 for Netscape/Mozilla/Opera/CompuServe (Windows)
- Macromedia Flash Player 7.0.19.0
- Mandrakelinux 10.1 for i586
- Memtest86 3.2
- Memtest86 3.2 for Windows
- Microsoft .NET Framework 1.1
- Microsoft DirectX 9.0c
- MMPlayer
- Motherboard Monitor
- Mozilla Firefox 1.0 for Linux, Windows, Mac OS X
- Mozilla Firefox 1.0 for Mac OS X
- MultiNetwork Manager 7
- NetStumbler 0.4..
- Nvidia ForceWare 66.93
- OE Mail Recovery
- Offline NT Password and Registry Editor, Bootdisk / CD
- Ogg Codecs/Ogg DirectShow Filters
- Outlook Express Backup 6.5

@Mail Version v4.03

All you need to create your own Webmail solution, plus a 10 user licence. With @Mail, you can access email resources via the Web or a variety of wireless devices. The software (Linux and Windows) is a full turnkey solution, incorporating a complete email server package to manage and host user email at your domain.

@MAIL
30 day trial



Delphi 2005 Architect

Borland's just-released Delphi 2005 Architect is a complete development solution for Windows, featuring all of the Windows languages and SDKs for modern Windows rapid application development. This trial version of the popular application meets many of the demands developers made after Delphi 8.



Half-Life 2 demo

Play this huge Half-Life 2 demo and find out what the fuss is all about. You're scientist Gordon Freeman, fighting aliens through some early levels of the celebrated game. The demo shows off all the exciting action and graphics that have made Half-Life 2 the pick of first person shooters. Please note that this game requires an Internet connection and a Steam account.



From the Mag

The software in this section has related content in the magazine. This is where you find programs used for Workshops or those reviewed in print this month. Featured are Desktop Search products from the Beta Challenge, Google's Picasa photo editor from On Test, and several programs from Workshop.

APC Video

APC's technical editor *Matthew Overington* reviews one of the new entries to our Best Buys section this month, Samsung's SyncMaster 913N monitor, while *David Emberton* reviews desktop search programs.

APC Remix comp winners

Back in November 2004 we published music loops on our cover disc and asked readers to remix them and enter them into our competition. The judges have ruled, and the winning tracks, which were featured on radio station **fbi** — 94.5FM, are included on this month's DVD.



- Panopsys ThrottleWatch 2.0
- Pocket Divx Player
- PocketDivxEncoder
- Pocket-DVD Studio for Palm — trial version
- Pocket-DVD Studio for Pocket PC — trial version
- PocketTV
- QuEnc
- Quick Menu Builder 1.31
- QuickTime Alternative 1.39
- Real Alternative 1.29
- Restoration 2.514
- Roxio VideoWave Movie Creator LE
- Stinky's MPEG-2 Codec 1.2.0.79
- Sun Java 2 Runtime Environment
- Gimp
- TweakNow RegCleaner 2.0.3
- VIA Hyperion Drivers — 4-in-1 455vp1
- VIA K8M800 Integrated Graphics Device Driver v16943949
- VIA Ethernet Controller Driver v40F
- Virtual Dub-MPEG2
- VirtualDub 1.5.10
- Virtual VCR 2.6.9
- Wellenreiter 1.9

- Windows Media Codec package
- Windows Ultimate Boot CD 2.4
- WinDV-1.2.3
- xVid 1.03 codec
- ZoneAlarm 5.5.062.004
- Zwei-Stein Video Editor 3.01

Scripts for Workshop/Feature stories

- Programming Scripts for APC cover story
- Source code and Excel-based ABNLookup Tool for ABN Lookup Workshop

Workshop PDFs

- Mastering Linux, part 5

APC Video

- Best Buys Samsung SyncMaster 913N
- Desktop Search

Other

- APC music competition winners

ADVERTISERS' INDEX

Acer.....	2-3	Microsoft.....	4-5
ACO.....	142	Mittoni.....	136
Alienware.....	21	Navman.....	49
Altech.....	137	NEC.....	37
Anyware.....	133, 135	Novita.....	98
ASUS.....	45, 87, 89, 91	Optus.....	11C, 1
ATI.....	130-131	OTC.....	138-139
Australia IT.....	27	OzEmail.....	OBG
Big Ben.....	140	Pioneer Computers.....	59
Creative Labs.....	IBC	Ricoh.....	39
DigitalStar.....	75	Roxio.....	123
Emagen.....	119	SMC Network.....	134
Epson.....	43	Targus.....	69
Ericsson.....	14	Teg.....	132
Fluke.....	47	Toshiba.....	6-7, 61
Fortunetec.....	141	TPG.....	109
Fujitsu.....	13	TwinnHan.....	125
Gigabyte.....	41	Transcend.....	51
Impact Systems.....	129	Verbatim.....	63
Laser.....	120		
Microgram.....	93		

PC SUPERMARKET 129 TO 144



Safety first

Our shift to cover DVDs has taught us a lot about how APC readers interact with software. There's just so much on offer on the DVD compared to the CD that we're also getting more emails requesting tech support. We can't provide that, but I'd like to share what we've learnt in the hope you'll enjoy the discs even more (and reduce to zero the number of readers who ring us saying they've just wiped six months worth of critical data when installing a program from the DVD).

APC readers clearly have a thirst for open source software (try the Mandrakelinux distro on this month's DVD). Many also like to install Linux distros on older PCs that are no longer powerful enough to get the best from Windows XP. However, feedback shows many of you approach Linux distros as you would a Windows OS, with a naive trust that the software will install flawlessly on your PC. Unfortunately, Linux distros are less forgiving than a Windows installation.

Microsoft spends a lot of money building tolerance for a wide range of systems into its

software. You can even see this in Internet Explorer. For all its security issues, it will recognise more badly designed Web sites than Mozilla or Safari (I use all three). But that's not necessarily the case for major Linux distros or software from second or third tier software houses. A Linux OS may fail to install when it doesn't have drivers for, say, newer video cards.

So it pays to do some homework first. Unless you're sure your system is industry-standard and there are Linux drivers for all of its components, carefully check the distro's Web site for lists of the supported hardware. Make this standard practice every time you're considering installing a distro and you won't strike trouble.

It's also apparent that many readers don't create an escape route in case an install goes wrong and they lose access to critical data. If you're installing software from the APC DVD, or any other source, always back up your system data and have a set of bootable OS discs at hand. That way you can keep on using all the new programs that APC brings you on its cover disc.

EDITORIAL

Editor Tony Sarno tsarno@apcmag.com

Deputy Editor Garth Montgomery gsmontgomery@apcmag.com

Labs Editor William Maher wmaher@apcmag.com

Technical Editor Matthew Overington moverington@apcmag.com

News and Features Editor Dan Wierse dwierse@apcmag.com

Journalists David Emberton demberton@apcmag.com

Nick Race nrace@apcmag.com

Contributors James Bannan, Anthony Caruana, Alan Crawford, Matt Davis, Jeanne-Vide Douglas, Mary Jo Foley, Angus Kidman, Justin Krantz, Caroline Lanning, Asher Moses, Luke Parsons, Valens Quinn, Paul Schnackerberg, Jarrod Spiga, Anton Tormazin, Paul Walbath, David Williams, Daniel Winter, Stephen Withers

Editorial Coordinator Helen Chen hchen@apcmag.com

DESIGN

Senior Graphic Designer Patrick Kirsch

Graphic Designer Craig Carroll

Photography Patrick Kirsch, Getty Images, AAP

PRODUCTION

Production Editor Peta Duggan

Sub-Editors Stuart Hinchings, Tamarah Pienaar

Production Controller Leanne Calfin

MULTIMEDIA

DVD Editor Lachlan Grant lgrant@apcmag.com

Web and Database Manager Dan Lowden dlowden@apcmag.com

ADVERTISING

National Advertising Manager Chris Greenwood cgreenwood@apcmag.com

NSW Advertising Manager Martin Brown mbrown@apcmag.com

Vic Advertising Manager Chris Greenwood cgreenwood@apcmag.com

Advertising Sales NSW Nathan Hill, Amorette Judd, Adam Stead, Alex Vela

Advertising Production Jackie McCarthy

Advertising Enquiries (02) 9288 9149

MARKETING

Marketing Brand Manager Dan Pugh dpugh@apcmag.com

ACP

CEO John Alexander

Group Publisher Phil Scott

Associate Publisher Lucinda Mitchell

Advertising Sales Director Cameron Hay

CONTACTING US

Email apc@apcmag.com Web www.apcmag.com

Phone (02) 9288 9111 Fax (02) 9267 4909

Postal PO Box 4088, Sydney NSW 2001

Street Level 9, 175-183 Castlereagh Street, Sydney

For Replies and Opinions

You must include your full name, address and B/H contact telephone number with your letter, otherwise we cannot consider it for publication.

watchdog@apcmag.com opinions@apcmag.com

REPRINTS AND COPYRIGHT

Contact Helen Chen Phone (02) 9288 9105

SYNDICATION ENQUIRIES

London John Slater

Phone 44 20 7812 6527 email j Slater@acpuk.com

Sydney Greg Allen-Waters

Phone 612 9282 8808 email gallen-waters@acp.com.au

SUBSCRIPTIONS AND BACK ISSUES

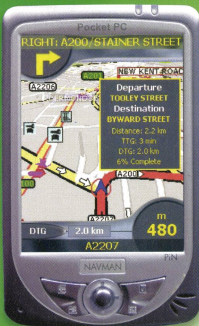
Phone 13 61 16 Email magshop@apcmag.com or visit magshop.apcmag.com

One year's subscription is just \$79.95!

For full details see page 65

Distributed by Network Services

APC is published by ACP Tech, a division of ACP Publishing Pty Ltd (ACN 053 273 546). Printed by Hannanprint Pty Ltd. Material contained within APC is protected under the Commonwealth Copyright Act 1968. No material may be reproduced in part or in whole without the written consent of the copyright holders. Distributed by Network Distribution Company, 54 Park Street, Sydney NSW 2000. Phone (02) 9282 8777



Subscribe now
for your chance to

WIN!

1 of 4

NAVMAN
PiN Pocket PCs

valued at \$949 each

Phone 136 116 and quote "M504APC" or
subscribe online at www.apc.magshop.com.au

Check out page 65 for more details on how you could win this great prize.

THE POSSIBILITIES ARE INFINITE

FUJITSU

Fujitsu recommends Microsoft® Windows®
XP Professional.



TOP-OF-THE-LINE. TOP IN PERFORMANCE.
Powered by Intel® Centrino™ Mobile Technology.
LifeBook E8020

Fujitsu LifeBook E8020 - a full-featured, high performance notebook designed for mobile professionals. Leading in the forefront of technology, this top-of-the-line powerhouse is engineered with the next-generation Intel® Centrino™ Mobile Technology platform.

Enjoy superior movie-viewing clarity with the LifeBook E8020's 15" Super XGA+ display and the hot-swappable modular DVD Super Multi Drive; experience powerful graphic capabilities with its dual-channel DDR memory and much more.

The LifeBook E8020 powers up for your most demanding tasks.

Built-In Confidence

LIFEBOOK

FUJITSU PC AUSTRALIA
Registered business name of
Fujitsu PC Asia Pacific Pte Ltd ARBN 098 263 195

lifebook.com.au
1 8 0 0 2 8 8 2 8 3



**MOBILE
TECHNOLOGY**

Wireless connectivity and some features may require you to purchase additional software, services or external hardware. Availability of public wireless LAN access points limited. System performance measured by MobileMark® 2002. System performance, battery life, wireless performance and functionality will vary depending on your specific hardware and software configurations. Intel, Intel logo, Intel Inside logo, Intel Centrino, Intel Centrino logo, Celeron, Intel Xeon, Intel SpeedStep, Itanium, and Pentium are trademarks or registered trademarks of Intel Corporation or its subsidiaries in the United States and other countries. Microsoft and Windows are either registered trademarks or trademarks of Microsoft Corporation in the United States and/or other countries. All product information is correct at time of printing.

EPSON®



EPSON756R

SOME THINGS DON'T WORK PROPERLY WITHOUT THE RIGHT EQUIPMENT.



To get the very best printing results you need all the right elements working together. The EPSON PerfectPicture Imaging System™ combines the highest quality photo printers, genuine EPSON inks and papers to give outstanding results every time. With quality like this, it's little wonder three times as many professional photographers choose EPSON when photo printing*. Call 1300 361 054 or visit us at www.epson.com.au

*Source Colmar Brunton Research (Aust) 2004.

Need to Know

News, views and analysis from the IT world

Pirate site SuprNova burns out

The war on piracy has intensified, with the most popular file sharing protocol — BitTorrent — under attack. *Dan Warne reports.*

The wildly popular BitTorrent file sharing system is under attack, with two of the largest Torrent sites "going down quietly".

Although the owners of SuprNova.org and TorrentBits.org couldn't be reached for comment, a senior industry insider said it was likely they had accepted a deal with the film and recording industries allowing them to escape lawsuits if they pulled the plug on their sites without argument. Both sites listed thousands of pirated

movies, albums and games for download using BitTorrent. Both had previously argued they were not infringing copyright because they only linked to files on other Web sites.

At its height, the BitTorrent protocol comprised 53% of all P2P traffic, or over a

third of all Internet traffic, according to a study by Delft University of Technology in The Netherlands.

BitTorrent is less susceptible to legal attack than previous P2P networks because it doesn't use central servers to list files that users are sharing, which led to the legal

The pirate sites likely made a deal to avoid legal action

culpability of networks such as Napster. Instead, any user can run their own tracker, a Web site which keeps track of which user is sharing what, right down to partially downloaded fragments of a file.

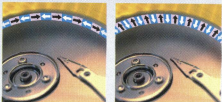
Ironically, user attention focused on central Web sites which keep track of the trackers. The two largest aggregators, SuprNova and TorrentBits, although not hosting any Torrent files themselves,

Next-gen hard drives appear

The perpendicular hard drive has arrived, and Apple's wildly popular iPod is likely to be the first beneficiary.

Maxtor announced last year that it had made working models of perpendicular hard drives, which lay magnetic particles on their head rather than their side, allowing for greater capacity per square inch. But Maxtor was pipped at production by Toshiba. Toshiba's new two-platter, 1.8in drive packs 16.62GB per square inch — a total capacity of 80GB.

If the same technology was applied to a five-platter, 3.5in desktop PC hard drive (as per Hitachi's mammoth new 500GB drive), the capacity would be a staggering 6.4TB.



Longitudinal recording (left) has 20x less the density of Perpendicular magnetic recording methods (right).

"We've had working demos in the lab for years," said Western Digital's senior director of product marketing, Ted Deffenbaugh, who claimed new twists on existing technologies will breathe life into existing hard drive capacities.

Dan Warne

P2P



Stopping the Torrent: It's rumoured that the popular sites accepted deals to escape lawsuits.

Also in Need to Know:

19 Exchange Stan Ng

Apple's worldwide product marketing director for the iPod, and the man who could be credited for the resurgence of Apple's popularity as a mainstream brand.

22 Feature Blogging

Are blogs democracy in action or just another platform for the opinionated? Both — and all the better for it. APC sorts the wheat from the chaff to bring you a selection of staff favourites across core computing categories.

26 Opinion

Paul Wallbank says the IT support industry has a reputation worse than that of used car dealers or politicians. Mary Jo Foley believes Microsoft has to get it right the first time when it launches its new security services.

28 Watchdog

Why do warranty claims for computer equipment take so much longer than those for domestic appliances?

30 Epinions

APC readers have their say.

Is it legal...

Is it legal... to install a keylogger?

Keylogging software monitors and records the keystrokes entered into a computer. Such programs are usually used for illegally obtaining passwords or PINs. A recent US court case concluded that keylogging falls outside the relevant wiretap legislation since the information is recorded from a keyboard, not a communication device. But are such programs legal here?

Australian states have been slow to introduce legislation specifically prohibiting this software. Fortunately, each state has criminal legislation which prohibits accessing or possessing data without authorisation. This is likely to encompass keystroke logging software, thus rendering it illegal.

Alan Crawford is a lawyer with Henry Davis York
alan_crawford@hdy.com.au

Disclaimer: this does not constitute legal advice. Seek advice if an issue concerns you.

Privacy

Police could read your email

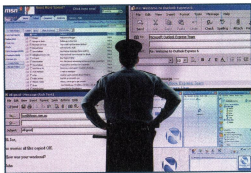
Software pirates should be quivering in their boots right about now.

Australian law enforcement agencies can now get access to your electronic communications much more easily. Email, voicemail, SMS and instant chat logs will no longer be treated as "telecommunications" and given the same legal protection as phone taps, under tough new amendments to the Telecommunications Interception Act.

Since November 2004, the Federal Police and ASIO have had unfettered access to stored communications, as long as they have permission from a Justice of the Peace, who could be a local pharmacist or building society manager. Prior to that, stored communications couldn't be accessed without police going to court and convincing a judge there were grounds for the surveillance.

"Previously you would need a warrant to access physical premises, but if you found a mobile phone sitting on a desk in those premises you couldn't just pick it up and read through the SMSes," explained a spokesman for Attorney-General Phillip Ruddock. "We are just bringing the law into line with changes in technology. If you have access to a building, you now have access to the equipment."

However, civil rights groups have charged the government with playing down the extent to which the changes downgrade privacy protection. "We've



The writing is on the wall: well, it may as well be...

made telecommunications, which used to have the highest level of protection, into one of the most accessible forms," said Kimberly Heitman, board member for civil rights group Electronic Frontiers Australia. "You can no longer treat the telephone or a computer as a private device."

If you find the idea of having the government sort through your email irksome, encryption will win you some time and privacy, at least until authorities are able to obtain a magistrate's order asking for the key. "Authorities in Australia now have powers the like of which don't exist in the US or UK," said Democrat senator Brian Greig, whose party opposed the amendments.

Jeanne-Vida Douglas

Pirate site SuprNova burns out

became the equivalent of the central index servers that brought down Napster.

The figure behind

SuprNova was a user with the handle Sloncek. Following the shutdown of SuprNova, Sloncek said he's been employed by a company producing a derivative of BitTorrent that wouldn't require Web sites to list Torrent files.

The software, eXeem, works similarly to Kazaa, removing any need for central servers and instead pushing the responsibility of listing files onto users.

"Our system will use swarms as trackers, which means everyone is connected to everyone," states eXeem's FAQ for beta testers. "This eliminates need for one central tracker, [and] since there will be thousands of

swarm trackers, every Torrent will have one.

However, as with Kazaa, it's likely the makers of the software will be undone by the money trail created through selling banner ads in the program. The recording industry argues that this approach allows P2P software makers to generate huge incomes from the sale of advertising space, based on vast audiences attracted by the availability of easily downloaded pirated content.

The evolution of piracy

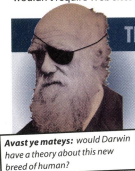
1st generation: downloading pirate files from password-protected FTP servers. Too difficult to be mainstream, too easy to prosecute.



2nd generation: IRC and news servers streaming files as coded messages in chat rooms and newsgroups. Still in operation today, but tricky to do.



3rd generation: Napster, P2P with central servers listing files available. Busted on the grounds that it had total control over the availability of pirated files.



Avast ye mateys: would Darwin have a theory about this new breed of human?

Windows

DECODE

VoWi

Longhorn taking shape



Beta testers, start your engines.
It looks like Longhorn is nigh.

Microsoft's long-awaited Longhorn upgrade to Windows is a step closer to reality, with the first public beta expected to hit the street as early as June.

While developers have been able to access chunks of Longhorn code for some time now via community technology preview releases, complete builds of the operating system have been zealously guarded. Making that code public will help identify problems, but also make Microsoft's plans clearer to its rivals. Some existing testers have already argued that more private builds are needed prior to the public release.

Microsoft's official stance remains that Longhorn will become available on desktops in 2006 and servers in 2007. The company is under pressure from PC makers to ensure that the code ships in time for Christmas 2006 hardware sales. PC builders are likely to play a crucial role in selling Longhorn, just as they have with the Media Center release of Windows XP.

One reason for that is the beefy system requirements for the new OS. For testers, Microsoft has recommended a minimum of 1GB of memory and 8GB of disk space.



Beta and beta: Longhorn is one step closer to reality.

Plans are murkier for Blackcomb, Longhorn's successor server release, though it now seems likely that this will be the first major release to include the new WinFS file system originally scheduled for Longhorn. Ironically, Longhorn was originally introduced into the Microsoft schedule when plans to launch Blackcomb with all the WinFS features proved too ambitious. Microsoft watchers are now predicting a 2011 release date for Blackcomb.

Angus Kidman

What's hot, what's not

TOP INCLUSIONS

Longhorn's most obvious enhancements are in its interface, with a collection of technologies known as Aero enabling features such as 3D windows. Both Avalon (the new graphics subsystem) and Indigo (a Web services-based middleware architecture) will be included.

Intel's LaGrande security system and Vanderpool virtualisation enhancements will also be supported. New browser and digital photo tools and an enhanced task-based help system are promised, but details are sketchy.

TOP EXCLUSIONS

The problem child for Longhorn is WinFS. This much-touted, object-based file system was to be the centrepiece of Longhorn's search capabilities, but has now been delayed. Microsoft's ability to embed other applications such as Internet Explorer and malware protection within Windows will also come under further legal scrutiny. And despite the early focus on developers, it hasn't yet been possible for testers to run beta versions of Visual Studio on Longhorn preview releases.

We fixed the glitch

We're giving Microsoft's security team an A for effort after putting out the latest spot fire, though it's left us scratching our heads.

The problem? A little issue with the Windows firewall that could result in unintentional public file sharing. No, your modem light isn't playing tricks on you — Microsoft inadvertently failed to firewall dialup connections in XP SP2.

Want to nominate a dumbest moment in tech?

Send an email with the subject line Dumbest Moments to wmaher@apcmag.com. All correspondence becomes the property of APC.

4th generation:

Kazaa. Similar to Napster, but without the central servers. Users with fast connections may unwittingly become "central servers" on the network.



5th generation:

BitTorrent. No organised network — users upload a small reference file to share. Unofficial sites are now being legally targeted.



6th generation:

eXeeM. Totally decentralised. Each user tracks files, but no single computer is wholly responsible for any one file.



In brief news



IBM THROWS IN THE TOWEL
IBM has sold its desktop PC division to Chinese company Lenovo. The division, which generated over \$9 billion in revenue annually but had not been profitable for some time, changed hands for just over \$1 billion. The deal allows Lenovo to use the IBM brand for five years. It's also thought that IBM will use the opportunity to sell its profitable IT services to the huge Chinese market, with Lenovo as its local partner.

XBOX XP?

ReactOS is a Linux distro that emulates Windows. Developers have currently got it running on Microsoft's Xbox console. Hardware support is still unfinished, so a USB mouse and keyboard can't be used. But ReactOS's developers say they're close to getting it working.

VOIP: TOO LATE?

Wireless broadband pioneer Unwired has backed away from plans to offer VoIP telephony over its network. Spokesperson Amanda Wallace told APC that competition from capped price mobile plans currently makes a wireless VoIP service less attractive. But the company hasn't ruled out offering it at some point in the future.



Sim Tycoon

This man paid \$30,000 for an island... in a computer game.

It only took two hours of bidding for David Storey to secure his dream property — an island measuring five kilometres square. The online auction involved no actual land, but rather a few million pixels. What Storey bought was in fact the first player-owned piece of Project Entropia, a multiplayer game world with its own cash-backed economy and over 180,000 inhabitants.

We half expected to find Deathflier (Storey's nom de Net) to be a wealthy eccentric, or a marketing lackey for the game company. Turns out he's just a 23-year-old PhD student from Sydney. Storey became interested in the land auction after more than a year of playing MindArk's popular game, in which time he manufactured virtual weapons and components for sale.



Spot the difference:
David Storey and Deathflier.



Perks of the job: my other plane is another private jet.

Having run the numbers and secured the backing of some daring investors, Storey decided that even imaginary real estate could turn a profit. The digital island includes its own castle, mineral wealth, and land tax rights. After months of planning, he won the auction, eventually handing over US\$26,500 for the title deed.



Bachelor pad: no parents allowed.



The beach mansion: complete with swimming pool, bar airport hangar, and giant gun turrets.

Since then, Storey says Project Entropia has consumed 10 hours of each day, mostly spent trading goods and answering questions from curious onlookers. When not playing chief, he researches ways to improve gameplay in other genres for his PhD.

David Emberton

Data dump

6 months

Jail time for a US man sentenced for hacking NASA servers. The man, who was 17 at the time, said he was looking for somewhere to save his movie files. (Source: Yahoo! News)

Money being spent on Adam Internet's rival to Telstra's ADSL network in Adelaide

\$9.6 million

(Source: CDN)

Potential speed of ADSL2+ network

28MB/s

Number of megapixels in Canon's EOS 1DS Mark II digital camera

16.6

(Source: Gizmodo.com)

Initial overseas sale price

US\$6,999

Number of PCs in Australia's largest Net café, Everywhere Internet

300

(Source: Acer)

Café's fibre optic Net connection

34Mbit

Number of corporate "hate sites" online at end of 2000

1,900

(Source: CDN)

Number online in 2004 survey

10,500

iPod's man behind the scenes

Stan Ng is Apple's worldwide product marketing director for the iPod, the man who could arguably be credited for the resurgence of Apple's popularity as a mainstream brand. He spoke to *Dan Warne*.

The CEO of Creative, Sim Wong Hoo, says he's starting an MP3 player war against iPod. Is he dreaming?

We're very excited about the success iPod has had. But I would be foolish to say we're not constantly thinking about the competition.

What do the competitors do better than iPod?

Our priority is to create the best possible product regardless of what others are doing. For instance, during the design phase of the iPod shuffle, we looked at hundreds of flash players from other manufacturers. They all had tiny displays and miniature buttons which were really hard to read and use. Despite the fact that this was the de facto standard for flash players, it was obvious

to us that wasn't the direction to go with shuffle.

How long will it be till we see iPod Movie?

The key issue is that there's currently no way of taking a DVD and playing that content on an alternative device legally. And there's no infrastructure for legal digital movie downloads. [Besides,] there's already a great way to watch that content — portable DVD players. We also doubt whether people really want to watch videos on a 3in screen. Regardless, we'll wait and see what happens with video over time.

Since Apple has said it makes money from selling iPods, not the iTunes Music Store, why don't you license the Fairplay DRM to other online stores?

One of our core values at Apple has always been about providing the entire experience. We offer iPod and iTunes together, with tight integration between them. The iTunes Music Store is the third very important aspect in keeping the integration seamless.

We've had incredible success with the iTunes Music Store. We have 70% market share in online music, and over 60% market share with the iPod [both US statistics]. Why would we want to break a winning formula?

People are starting to plough large amounts of money into iPod accessories. You're not going to change the dock connector design are you?

[Laughs] Obviously I can't give a commitment that we will never change the dock connector, but

Exchange



when we created the dock connector (which incidentally was because iPods were becoming too thin to house the FireWire connector), we took the time to plan it properly.

What's to stop other MP3 manufacturers using the iPod connector?

The connector is proprietary to Apple. We work in partnership with many accessory manufacturers who have created a huge range of compatible accessories, though.

So, hypothetically, you wouldn't let Creative for example, use the dock connector on their players?

Probably not. I mean, the future is the future, but probably not.

Google: world encyclopaedia



If the battle of the search engines isn't won on technology, it might just get won on content.

In a bid to increase their overall usefulness, search engines are offering the ability to trawl through content other than Web sites. Google has outlined plans to offer access to digitised content from major academic libraries. Microsoft has incorporated the Encarta Encyclopedia into the latest versions of its MSN Search service.

Online retailer Amazon.com has offered digitised text search for some time, though it restricts the number of results available in a bid to protect author copyright and relies on publishers to supply the digitised version. Google's more ambitious project will see it working with five major libraries (including those at Harvard and Oxford universities) to digitise their entire collections, offering

unlimited access to out-of-copyright works and brief citations from new material.

"A true global virtual library is still years away," Gartner analyst Marti Harris noted following the announcement.

Similarly, much of the content from Encarta is only available to subscribers to MSN's premium services (the local version is run by ninemsn). However, the answers to basic questions are provided free from the encyclopaedia's archives. Microsoft may even open its archives to the public in the face of competitive pressure.

Both Google's and Microsoft's approaches provide access to more reliable content than the free-for-all of Web sites, where accuracy is often lacking.



Google online library: no more 1 cent a day late fines, or confusing Dewey decimal systems.

A key difference is that the search engines don't have any directly-linked revenue to fund their new content deals, relying instead on their ability to attract advertising dollars through higher visitor numbers. With global online advertising spend tipped by media buying group Carat to top \$20 billion in 2005, competition will be brutal.

Angus Kidman

Quote file

"OK, there are still a couple of places where you need to know what you are doing"

Installation notes for the Ubuntu Linux "fast and easy" installer.

Netscape gets in bed with Internet Explorer

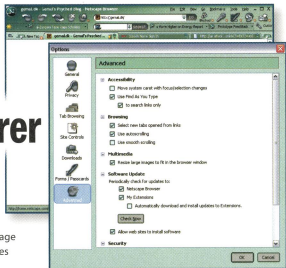
Sick of switching browsers because a Web site won't work properly?

There have been sightings of a new Netscape prototype, and it comes with a twist. Unlike most other browsers, the new Netscape can render a page in two ways, either as Mozilla or as IE. This promises to make surfing easier by making it easier to accommodate poorly-tested or exotic page designs.

Browser buffs will recognise the dual-engine concept as Project Komodo, an operation that began with the original Netscape team in 2001 but has not been seen to work until now.

The idea is to render all pages as Mozilla (the same rendering engine used by Firefox) by default. Then, if they don't work, they can be redrawn as IE with the click of a button, and set to always appear in one mode or the other using a preference setting. The technique relies on the modular ActiveX version of Explorer, a Windows-only feature that Microsoft has been promoting to software developers for years.

Originally an icon of Web software development, Netscape has fallen into the background since being



Netscape: the Boy George of Web browsers.

purchased by AOL. With the original developers gone, Netscape is now mostly just a brand name attached to a browser, a Web portal and a dialup Internet service aimed at the US market.

Stumbling blocks for the Netscape browser have been its gimmick-laden UI and retro green colour scheme. By bringing Project Komodo to fruition, AOL will make Netscape more than just a rebadged version of Mozilla. Whether users will accept the new tweaks is another question.

The dual-engine Netscape browser prototype appeared in December 2005 and, assuming the feature goes well in testing, it will be available to the public this year.

David Emberton

DREAM SYSTEM

Monster monitor



If you are the Sultan of Brunel, Samsung has just the monitor for you. Priced at an estimated \$127,000, Samsung's prototype 102in plasma display is the world's largest, offering full 1,080p resolution, which translates to 1,920 x 1,080 pixels, at 60fps.

Just minutes after Samsung lifted the curtains on this gorgeous creation, naysayers were out on tech blogs defending their outmoded 50in TVs. One jealous pedant observed, "if the set can do 4,000p, giving it a 1,080p signal will look the equivalently sharp on a 50in set at half the distance compared to this 100in screen." Clearly, some people don't appreciate that bigger is better, no matter what.

The screen won't be available to the public right away — Samsung has only managed to make one so far, and therefore won't be commercially available for at least a year.

Dan Warne

The colour of envy.



Alienware recommends Microsoft® Windows® XP Professional.

Starting at \$1,899



Take advantage of limited time offers at:
www.alienwaresystems.com.au

1-800-005-003

Alienware recommends and uses AMD Athlon™ 64 FX-55 processors with HyperTransport™ technology.

ALIENWARE
HIGH-PERFORMANCE SYSTEMS



Price subject to change without notice. Price shown does not include monitor and shipping charges but includes GST. Alienware can not be held responsible for errors in photography or typography. Actual case may vary in design. Alienware, and Alienware head logo are registered trademarks or trademarks of Alienware Corporation. AMD, AMD Athlon, AMD Athlon logo and combinations thereof, are trademarks of Advanced Micro Devices, Inc.

Best of the blogs

Are blogs democracy in action or just another platform for the opinionated? Both — and all the better for it.

With the size and variety of blogs growing at an exponential rate, APC thought it was time to sort the wheat from the chaff and bring you a selection of staff favourites. And to make things easier, we've broken

them down to the core computing categories that we love and use.

The main criteria in selecting these blogs was that they had to be interesting and help keep your tech kung fu in peak condition. In some cases, the definition of a blog has been expanded beyond the standard LiveJournal-style. Some of our picks are essentially blog front ends with a forum back end. Log on and enjoy.

Windows

There's no shortage of punters sounding off about Windows, but William Maher reckons these blogs combine inside information with gripping insight.

LONGHORN BLOGS www.longhornblogs.com

"I know most designers would wet their pants," muses Nathan Dunlap, just one of several Microsoft designers blogging online about their behind-the-scenes experiences with Longhorn code. The new OS is still ages away, but there's already a legion of Longhorn bloggers here (well, 36 at the time of writing), some developing early Longhorn applications, some just watching curiously.

CHANNEL 9 <http://channel9.msdn.com>

With the tagline "five guys from Redmond," this has nothing to do with the television network. It's an officially sanctioned Microsoft blog where you can talk to and see footage of actual Microsoft developers. It's techie stuff, filled with topics like Windows File System Filters and discussion of new features in Visual Studio 2005.

MATT GOYER'S MICROSOFT WINDOWS MEDIA CENTER BLOG

<http://mediacenter.mattgoyer.com>

Matt Goyer may be one of the Gates-clan (he's a program manager on the Media Center team), but he at least feels free enough to talk about the competition. Oh, and if you've bought an XP Media Center machine, this is well worth a look.

Software

These blogs will help you stay on top of the software development world, and keep your drive stocked with the latest and greatest, writes David Emberton.

GEEK NEWS CENTRAL www.geeknewscentral.com

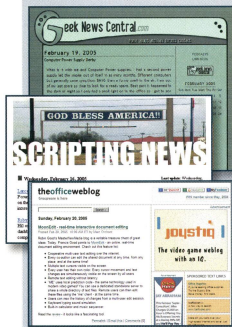
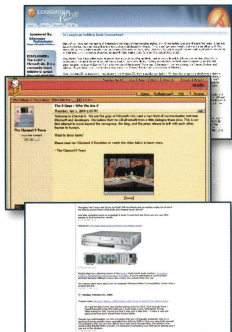
This pioneering blogging effort is updated daily with a down-to-earth mix of stories from the world of software and tech. Everything from browsers to encryption is covered here, with some random commentary thrown in. The site is run by Todd Cochran, who also hosts the Geek News Central podcast, a regular audio addition to the blog.

SCRIPTING NEWS www.scripting.com

Dave Winer is a heavy hitter in the blog space, having been instrumental in developing Really Simple Syndication and the Bloggercon conference series. He keeps his site stocked with succinctly written items relating to software and network publishing, as well as a few personal and political posts. One of the better connected online personalities.

THE OFFICE WEBLOG <http://office.weblogsinc.com>

The Office Weblog is a constant source of gems, with reviews of new apps and technologies you might not have heard of. Solid writing, a sprinkling of images and plenty of links make this blog a must-read for professional techies. From the people who brought you Engadget.



Hardware

Keeping updated on the multitudes of hardware releases, update reviews and whatnot can be a full-time job in itself. *Nick Race* recommends three blogs that do it for you.

ALEX SCOBLE'S IT NOTES <http://itmanager.blogs.com>

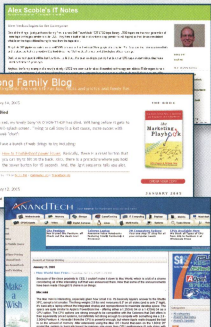
Not purely a hardware blog, Alex Scoble's writings detail the trials, tribulations, projects and ponderings of an IT manager at a "small Palo Alto law firm". Though it may sound limited in scope, Scoble's challenges are familiar to those working as IT managers or network admins and provide good grounding for real-world technology usage.

TONG FAMILY BLOG www.tongfamily.com

The Tong Family was blogging back in 1995, long before the term was coined. From its "tips, tricks, photos and family fun" tagline, the blog has evolved into a hardware watch list. With links to mods, new releases and reviews, the Tong Family Blog will keep you in the loop.

ANAND LAL SHIMPI'S WEBLOG www.anandtech.com/weblog/default.aspx

Anandtech has been one of the Internet's primary hardware review and editorial sites for going on eight years. More about keeping on top of the hardware market and the trials and tribulations of being a hardware reviewer and analyst, Anand Lal Shimpi's blog gives some insight into the highs and lows of running one of the Net's most visited hardware sites.



Alternative OS

What is it about free, open source or non-Windows operating systems that inspire evangelism? *Nick Race* lauds three blogs that give you the goods without the guff.

MICHAEL'S MINUTES www.linspire.com/lindows_michaelsminutes.php

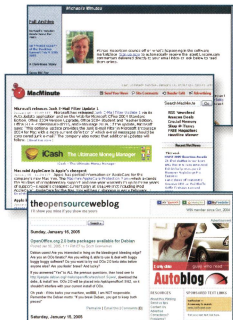
Michael Robertson, CEO of Linspire, keeps his finger on the pulse of the business side of Linux software. Whether he's following the fortunes of Linspire in the marketplace, comparing open source and proprietary software, or chronicling the never ending struggle to get Linux on the common man's desktop, Michael's Minutes is always an interesting read.

MACMINUTE www.macminute.com

Mac users are a vocal lot, so cutting through the signal-to-noise ratio can be a nightmare. MacMinute does a good job of keeping abreast of important releases, news and changes in the Mac sphere with a minimum of fuss. A refreshing change from the multitude of Mac blogs that only show the latest and greatest third party plastic covers for the iPod.

THE OPEN SOURCE WEBLOG <http://opensource.weblogsinc.com>

More a business venture than a private hobby, The Open Source Weblog summarises the latest releases, developments and movements in the open source realm. Linux, Mac OS X and BSD all get a look in, and it's updated regularly throughout the day.



Geek culture

If a blog involves itself with the language, customs, history, art, heroes and villains of the geek universe, then it's a hub for geek culture. Here's *Garth Montgomery's* selection of essential bookmarks.

SLASHDOT <http://slashdot.org>

Sure it predates the blog phenomenon, but Slashdot is the prototype blogosphere of geek culture. Its tagline — "News for Nerds. Stuff that matters" — has made it a honeypot for geeks worldwide. No tech issue of significance is missed here, making

it an essential daily port of call. There are polls, developer information, book and game reviews, interviews and an excellent help section, AskSlashdot. Of course you know this, but we'd have to uppercute ourselves if we didn't salute CmdrTaco's creation.



Internet

It's a cauldron of personalities, technology and fads. We call it the Internet and these blogs offer great coverage of the world's biggest network, according to David Emberton.

THREADWATCH <http://threadwatch.org>

Threadwatch is aimed primarily at Internet marketers, but the authors cover the latest news on Internet technology and search engine politics as well as general software and Web publishing. Threadwatch promises "less noise, more signal" — and for the most part, it delivers.

FULLASAGOOG www.fullasagoog.com

This Australian-made Weblog aggregator combines posts from the best of the world's Web developers, with a focus on Dreamweaver and other Macromedia products. Also includes solid coverage of general Internet happenings and a selection of pre-mixed syndication feeds.

SCOBLEIZER <http://scoble.weblogs.com>

Robert Scoble is a Microsoft employee and evangelist who posts several times a day on industry trends and Internet technology. Flippanly controversial, he breaks the mould for Microsoft bloggers and provokes regular discussion about his own company and plenty of others too. At times you definitely wonder how he manages to keep his job.

Programming

Professional and amateur developers can't afford to let their skills drop. It's hard to stay on top of a fast-moving industry, but here are Matthew Overington's top programming blogs.

DEV SHED www.devshed.com

Top on the list of bookmarks for every developer is the Dev Shed. It's a blend of blogs, aggregated news and editorial on all things related to programming, with regular contributors helping to keep the content fresh. The site is updated daily with techy articles, like how to implement Bayesian inference using PHP, or how to use conditional probability to build an intelligent Web application.

CODING TIPS <http://codingtips.blogspot.com>

Jonathan Leger, a professional programmer and analyst, maintains this site devoted entirely to programming tips, tricks and hints. Every major programming language gets a look in, with particular attention paid to the .NET family of products. Well worth a look if you're a Microsoft programmer, whether pro or amateur.

ARTIMA WEBLOGS www.artima.com/weblogs/index.jsp

With a tagline that boasts "A Community of Software Thinkers", this page leaves little to the imagination. A vibrant group of more than 60 programmers maintain blogs here and most are a mix of work-related and personal rants that serve as insights into programming culture.

Geek culture (continued)

BOINGBOING www.boingboing.net

One of the oldest blogs online, Boing Boing is the creation of ex-Wired editor Mark Frauenfelder, and is now collectively run with four other technoculture geeks who've been online forever. The site's tagline,

"A directory of wonderful things", means it's often concerned with the way technology interacts with popular culture, politics, activism, business and media. A little more alternative or underground than Slashdot, but just as varied and stimulating in content.



Security

Yeah it's necessary, but geez it can be boring. Keeping up with security issues is critical to maintain your tech cred and these picks make security interesting, writes William Maher.

CRYPTO-GRAM www.schneier.com/blog

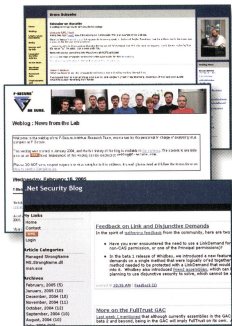
One for the ultra-paranoid, this site goes beyond the usual virus outbreak news to bring you musings on the world of Big Brother. Topics here range from aeroplane missile defence to FBI email tapping systems and biometric IDs. Crypto-head Bruce Schneier's monthly email newsletter is supposedly read by 10,000 subscribers.

F-SECURE WEBLOG: NEWS FROM THE LAB www.f-secure.com/weblog

Step inside the lab of a major antivirus software vendor, with daily updates on the new tactics virus writers are using, plus screenshots of virus code (in case you're not sure) and other titbits bound to have you scrambling for antivirus updates. Also available as an RSS feed.

.NET SECURITY BLOG <http://blogs.msdn.com/shawnfa>

Streams of programming code on this blog tell you this site's not for beginners. Refreshingly free of hyperbole, discussions cut straight to the crux of .NET security with news on everything from signature keys and cryptography to debugging. Another plus: you can say this one's for work.



Networking

Networking separates the 1337s from the n00bs. Always hot, always evolving, these are Matthew Overington's picks for staying ahead in the wide world of networking.

MICHAEL SPLATT'S BLOG www.splatt.com.au/blog

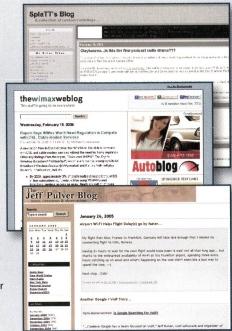
While not just limited to information on networking, Splatt's Blog is a useful source of data on all matters technical. Podcasting, aussie networking, Wi-Fi and geek culture all get a look-in on this slick and frequently-updated repository of useful rants, observations and links.

THE WIMAX WEBLOG <http://wimax.weblogsinc.com>

If you're interested in next-generation network technologies, Wimax is big news. Already being tested in NZ, Wimax promises higher speeds and greater ranges than existing wireless networking standards and could be the solution for delivering high-speed broadband access in hard-to-reach areas.

THE JEFF PULVER BLOG <http://pulverblog.pulver.com>

VoIP pioneer Jeff Pulver maintains a personal blog detailing his perspective on the happenings in the world of voice/data telephony. He's also just launched Bellster, a VoIP service that's currently going gangbusters around the globe, with new nodes registering daily. With consumer momentum gathering for VoIP, this is going to be a blog to watch in coming months.



ZGEEK www.zgeek.com

The coolest, swaggiest and damned naughtiest geek culture blog, run by a very quiet, very stoned Australian tech journalist. The tagline, like the content, changes daily, even hourly, and always has a subversive edge

(such as, "What the f*** is wtf?"). And there's a particularly funny feature called Tool of the Week. If you can read this site and not bust your bladder, you should check your pulse. And if there were any justice in the world, Zgeek's Pirate would be a billionaire.





Are you being served?

The IT support industry has a reputation worse than that of used car dealers or politicians.

Every month, I read tech horror stories in APC's Watchdog section, and a recent Australian Consumer Association survey found nearly a third of repairers can't diagnose a loose cable. How has it come to this?

Part of the problem can be blamed on the low barriers to entry. "I know something about computers" has found many support businesses, some good and some dreadful. Sadly, as many consumers have found to their cost, knowing how to format a computer or connect a modem doesn't make a competent technician.

What makes a reliable technician is a big question anyway. IT certifications are of dubious value, often doled out by colleges motivated by little more than a desire to make as much money as possible from gullible kids attracted to the "big dollars" of the IT industry. Even where these courses do prepare the repairers adequately, a lot of the subject matter is quickly redundant thanks to the pace of industry changes.

Change is a big problem for competent techs; fixing a three-year-old computer is problematic when the motherboard is designed for superseded memory and tiny hard drives. But a bigger problem for the local support guy is buggy and defective hardware, software and services. It's the repair shop that ends up carrying the can for the big IT companies, which regularly fail to release products that work reliably and as advertised.

Customers cannot escape some blame for the poor state of affairs in the computer repair industry either. Imagine driving a car for 50,000km without a service or checking the oil, water or tyres, then frantically leafing through the phone book for the cheapest and quickest mechanic when it breaks down? This is exactly what the vast majority of business and home computer users do.

The results are predictable. Many customers end up with the wrong person doing the wrong job for the wrong price. While computer users fail to accept that, like cars, computers have ongoing costs, the shoddy repairers will stay in business.

To be fair to the home user, big and small businesses are even worse. I never cease to be

amazed at the number of large organisations that proudly announce how much slashing their IT departments will save their business.

Imagine driving a car for 50,000km without a service

Small businesses are forever bleating about how important IT is to them while using cheap, unmaintained consumer PCs running pirated software and connected

to the Internet via a \$19.95 per month plan.

Despite being 20 years old, our industry is still immature. Technicians need more formal

training, such as apprenticeships, and a code of conduct for IT support businesses has to be developed. But just as our industry's competence and ethics need to be improved, the behaviour of vendors, suppliers and customers also needs to change.

The situation isn't all bad news. The ACA survey reported that 70% of repairers found that loose cable, and a third of those didn't charge to fix it. So we're not such a bad bunch after all. Customers just need to take a little more time and care in choosing a technician. Paul Wallbank is the founder of PC Rescue (www.pcrecue.com.au). He runs regular computer talkback and comment spots on ABC Local Radio and adapted the latest Australian edition of PCs for Dummies.

Want better locks for your Windows?

Mary Jo Foley



Microsoft must get it right first time when it launches its new security services.

In 2005, Microsoft is expected to field several new security services. But these offerings won't necessarily make the software vendor's customers immediately more secure.

Hot on the heels of its security-minded Windows XP Service Pack 2, Microsoft began beta testing its first antivirus and antispyware services, which are likely to include a hosted firewall service (see page 44 for a review of Windows AntiSpyware Beta).

Microsoft has been cagey regarding its long-term commercial plans for these three offerings (antivirus, antispyware and a combined bundle), but in an encouraging step, it has promised to make AntiSpyware free — at least for now.

Early feedback on Microsoft's antivirus and antispyware solutions from customers, partners and the press has been mixed. Not too surprisingly, other security software vendors, fearing Microsoft's entry into their field, have dished Microsoft's technology and strategy in this market.

But unlike some pundits who think Microsoft is destined to release a shoddy version 1.0 of whatever security services it ends up delivering, this Microsoft Watcher

thinks the company will deliver a respectable set of security services in 2005. Why am I giving Microsoft the benefit of the doubt?

First, these services aren't coming out of nowhere. In the case of A1, the antivirus/antispyware/firewall bundle, Microsoft began testing prototypes of these kinds of hosted security services via a project known as the "PC Satisfaction Trial" two years ago. So even though the release will be a 1.0, Microsoft has quite a bit of insight into what types of products it needs to succeed in this space.

At the same time, the Softies know they can't afford to fail in this crucial and visible security arena. All eyes are on Microsoft's multipronged security strategy. Add to this the fact that Windows users are in near mutiny over malware and you get an inordinate amount of pressure to succeed.

I'm not expecting miracles — and neither should Microsoft customers. Microsoft is a target. Just a month after it launched its AntiSpyware beta, the first Trojan specifically targeting it reared its head. But I am also expecting something better from Microsoft than the usual version 1.0 implementation. It has no choice but to deliver.

Mary Jo Foley is Editor of Microsoft Watch (www.microsoft-watch.com). She sounds off exclusively for APC on Windows each month.

PowerColor

www.powercolor.com.tw



Unleash the Gaming Power in Your PC.



X850 XT Platinum Edition

- Powered by RADEON[®] X850 XT PE
- 256MB GDDR3 256Bit Memory
- Dual DVI-I
- VIVO Support
- HDTV Support
- 16 extreme parallel pixel pipelines
- 16x lane PCI Express



X850 XT

- Powered by RADEON[®] X850 XT
- 256MB GDDR3 256Bit Memory
- Dual DVI-I
- VIVO Support
- HDTV Support
- 16 extreme parallel pixel pipelines
- 16x lane PCI Express



X800 XL

- Powered by RADEON[®] X800 XL
- 256MB GDDR3 256Bit Memory
- Dual DVI-I
- VIVO Support
- HDTV Support
- 16 extreme parallel pixel pipelines
- 16x lane PCI Express



Bravo X800

- Powered by RADEON[®] X800
- 256MB GDDR3 256Bit Memory
- Dual DVI-I
- VIVO Support
- HDTV Support
- 12 extreme parallel pixel pipelines
- 16x lane PCI Express

Discover the New Era Of High Definition Graphics....



Australia IT

Tel : 1300 668 715 (VIC & NSW only)
(03) 9543 5855
<http://www.australiail.com.au>

The six week swap over

Why do warranty claims for computer gear take so much longer than for most domestic appliances?

Dear Watchdog,
When I returned a faulty hard drive to Computer World just before Christmas, I discovered that it would take six weeks to replace a drive that was only purchased in May 2004. What's your opinion on this?

Tony Redden
Marayong, NSW

Watchdog invited Computer World to explain why it would take six weeks to swap a faulty hard drive.

Dear Watchdog,
Unfortunately, we are at the mercy of our suppliers. Although we are open throughout the Christmas period, our suppliers are not, and therefore a delay is inevitable. We do not think that consumers should be surprised by such a fact. Normally, we can expect a delay of up to two weeks from our suppliers. We

have not misinformed the customer by saying it will be here within two weeks, but been honest and told him that it will take up to six.

Anant Yuvarajah
manager
Computer World

Computer World's explanation is reasonable given the circumstances. But even the quoted normal turnaround time of two weeks is a reminder that the "white box" computer industry operates with a different set of service standards to most other retail sectors. A consumer would expect an electrical store to swap a faulty appliance on the spot. The same rarely applies to computer hardware due to tight profit margins and the chance that a manufacturer might ultimately reject a warranty claim long after the retailer has parted with the replacement.



No time like the present: or six to eight weeks.

Hard drive warranties in particular have become a cause for concern to APC readers. Since they're the component that most often fails, a lot of long-time PC users would have had to get a drive replaced at least once or possibly several times in its warranty period. Increasingly, canny users take warranty into account when buying their drives — and not just the length of the warranty, but how it's fulfilled.

Some hard drive makers offer an Australian postal address which customers can post a faulty drive to. This is then forwarded free of charge to an overseas fulfilment centre, which quickly sends a replacement drive back to the customer. This can be quicker than dealing with local distributors.

Bitten by Gigabyte

Dear Watchdog,
I work for a CD duplication company which uses robots to do the duplication. These CD and DVD burning robots have a FireWire interface, and are driven by a PC. Recently, it came time to change a lot of the old CD burners to DVD burners. So we looked at some of the newer Gigabyte motherboards with onboard FireWire 800 and found one, the Gigabyte GA-8GPNXP, which had one onboard FireWire 800 port, one onboard FireWire 400 and (according to Gigabyte) a cable header for the connection of an optional cable to connect three FireWire 800 ports.

It looked perfect, so we went ahead and bought the motherboard. But when we asked about buying the optional cable to connect to the FireWire header on the motherboard, we were informed by the seller that although Gigabyte's motherboards often have "optional cable available", they haven't been able to get information about this part from Gigabyte.

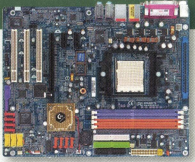
I phoned Gigabyte in Taiwan, dialled the extension to get the English-speaking department, and ended up at a mailbox with a greeting in what I can only assume was Chinese. I can't even contact Gigabyte!

We bought this motherboard because we thought it could power some of our faster mass DVD duplication robots, with a view to buying many more. I doubt we'll buy Gigabyte again.

Garrett Britton
North Sydney, NSW

Watchdog asked Gigabyte for a response.

Dear Watchdog,
Being a leading motherboard manufacturer Gigabyte always provides feature-rich products to meet the needs of the users both today and tomorrow. FireWire 800 will become a mainstream standard in the future, which is why Gigabyte has adopted the technology in most of our high-end products. Gigabyte believes future



Three extra FireWire ports: just buy the extra cable that isn't invented yet and you're away!

upgradability is important even though many users may not use all the features of a motherboard when they first buy it. However, FireWire 800 devices are not yet popular, and that's why it's not easy to get the cable.

Unfortunately, Gigabyte is not a manufacturer of accessories such as cables. We have, however, noted this availability issue and taken action to push cable manufacturers to advance the schedule of this cable's production.

William Kao
Gigabyte Technology

Watchdog's advice? Check the manufacturer's Web site for worldwide warranty processing procedures before buying. Does it offer a downloadable tool to test the drive and validate a warranty claim on the spot? Is there an Australian freight-forwarding address? These checks could save you trouble down the track.

STRANDED IN THE CITY

I used to live in central NSW where I accepted that I was doomed to live on dialup. I have since moved to Newcastle to attend university and, believe it or not, to get ADSL. However, after a year of trying I'm still unable to get any form of it. I've applied for ADSL three times and on each occasions Telstra rejected the connection. It also rejected the application to swap my dodgy pair gain phone line, which doesn't work with ADSL, to a proper one.

I have looked at other options, but unfortunately, can't afford them. I tried getting wireless, but I'm told a connection can't be guaranteed, even with a 50ft mast — a risky option at \$700 for installation. Next I turned to satellite, sacrificing ping times for at least the ability to download service packs in reasonable time. Now I find I'm not in an area covered by the Government's HiBIS subsidy program which, ironically, would have covered me if I'd stayed in the sticks.

I'm a heavy Internet user (2.5GB downloaded over three weeks on dialup), sharing the connection with three housemates. With Telstra putting us into the "too-hard" basket, we're left to continue struggling with dialup. What's worse, because of the pair gain on my phone line, the dialup speed is slower here than in the sticks.

**Kenneth Jones
Newcastle, NSW**

Watchdog asked Telstra why it was so difficult for Jones to get broadband.

Dear Watchdog,
Telstra currently is investing heavily in expanding ADSL availability. Across the country in the past financial year, approximately 4,000 phone lines per day were upgraded to make ADSL available. Around 87% of Newcastle residents can today apply for and get ADSL services, and this figure will continue to increase. We are committed to making ADSL as widely available as possible within the technical constraints of ADSL technology.

Mr Jones' local telephone exchange is ADSL-enabled, as are all exchanges in the Newcastle region. Unfortunately, he

Burned by Steam

Rodney Mayhew of Albany Creek, Queensland, was excited to discover that for US\$89.95 he could order an enhanced copy of Half-Life 2 directly from Valve, the game's developer, through its Steam Web site (<http://steampowered.com>). According to the site, the Half-Life 2 Gold package includes the game itself, a hint/strategy book, a hat, three posters, the soundtrack CD and some other souvenir items. The site also indicates the package is delivered to Australia via courier. Mayhew went ahead and placed an order.

He received the package, but when he opened it, he couldn't find the game CD. Assuming this to be a shipping mistake, he queried it with Valve. The company replied that buying the pack from its site only gave him the right to download the game — no physical copy would be supplied.

Mayhew says he feels completely swindled. "I paid in good faith for the goods advertised on the Web site, and did not receive them all," he told Watchdog. "The advertised offer does not say that the Half-Life 2 CD or DVD is not included in a tangible form."

Watchdog checked the Steam site and confirmed that it does not mention on its homepage (where the offers are listed), that Half-Life 2 Gold does not include a physical copy of the game.

is located too far from the exchange to receive the service, even if he were to seek a copper line transposition. Telstra continues to make improvements to ADSL delivery as the technology improves. We are currently undertaking a trial to extend the distance limits of ADSL.

**Craig Middleton
corporate affairs manager
Telstra BigPond**

We also asked HiBIS why Jones wasn't covered by the program.

Dear Watchdog,
HiBIS specifically addresses the issue of broadband availability and pricing in regional areas. Newcastle is classed as a metropolitan area under HiBIS and is not covered by the program.

The good news is that the Government announced a Metropolitan Broadband



What a bargain! \$89.95 for a hat, a book, posters, a soundtrack and a large download bill from your ISP.

We asked the game's publisher, Vivendi Universal, for an explanation. North American director of public relations Adam Kahn was apologetic and immediately offered to courier a boxed copy of the game to Mayhew. However, Kahn said the electronic distribution of Half-Life 2 was out of Vivendi's control because Valve, a separate company and not a division of Vivendi, runs the Steam site. Vivendi Universal is currently involved in a legal battle with Valve in relation to its online distribution of the game.

Watchdog contacted Valve's US-based spokesperson, Doug Lombardi, to request that the Steam Web site be updated to more clearly reflect what customers are actually buying. He offered a curt response claiming Mayhew's experience was "unique" and that no other customers had complained.

What do you think of Valve's tactics? Let us know at opinions@apcmag.com.

Blackspots Program in the lead up to the last election, with implementation anticipated in 2005-06. Although the details of the program haven't yet been announced, its broad aim is to help people like Mr Jones who are living in a metropolitan area but aren't able to get any form of broadband. Stay tuned!

**Damian Stevens
manager
Higher Bandwidth Incentive Scheme (HiBIS)**

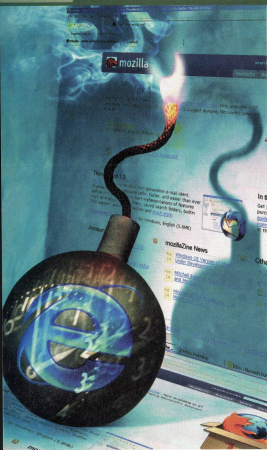
Contact us

WE WANT TO KNOW

how IT companies are really treating you. Letters must be under 500 words and include your full contact details and any product information. Write to: watchdog@apcmag.com or PO Box 4088, Sydney NSW 2001. All correspondence becomes the property of APC and is subject to editing.

Internet exploder

One reader's frustration with Microsoft's popular but often unloved browser is getting close to boiling point.



Get with the tabs: Internet Explorer is getting left behind when it comes to features such as tabbed browsing.

I can't believe how slow on the uptake Microsoft is in relation to giving users an enjoyable Web experience. Internet Explorer (IE) seems to lack even the most basic tools and/or functions that make working online more enjoyable.

Tabbed browsing is my latest frustration. How long will it be before Microsoft realises that having a tabbed browser is not an add-on but a necessity? In my work I need to monitor several intranet applications, which means I need to have several IE windows open at the same time.

I've tried many of the consumer browsers built on the IE engine that give some of the functionality I'm looking for, but there's always something that turns me away. The problem could be my login credentials being improperly parsed through to the proxies, or not properly recognising my default network DNS suffix. Either way, these browsers never last long on my system.

I use Firefox almost exclusively at home, simply because it seems more stable and has features that are fast becoming the norm. Unfortunately, Firefox doesn't seem to synch through the proxy servers at work, prompting for a username and password for each Web server I hit.

It seems Microsoft is happy to leave its dirty work to the third party developers who produce these add-ons. For goodness' sake, don't sit back and bask in your glory when the job is only half done. We've been presented with pretty much the same interface and functionality in the last few releases of IE. Sure we've seen greater support for some of the Internet standards, and a pop-up blocker, but that's about it.

In the meantime, I guess I'm stuck with third party browsers (I am currently trying Avant) to give me the functionality I need.

I am not surprised that non-Microsoft applications such as Firefox are gaining

Ignore the dead pixel policy

Manufacturers' dead pixel policies are a great consumer bluff. The manufacturer's policy is not the law. If you buy an LCD monitor you have rights as a consumer. Under the law, you are entitled to a refund, exchange or repair if something you bought:

- Is faulty or defective and you were not aware of the fault or defect.
- Does not do the job you were led to believe it would do.
- Does not match the description on the box or in an advertisement.



Dead pixel pickup: get your purchase out of the box and fire it up in store before taking it home.

- Does not match a sample you were shown.

One dead or bright pixel on an LCD monitor is, despite the manufacturer's policy, a fault or defect and you have a legitimate complaint unless you bought the monitor knowing about the fault or you were expressly informed of the manufacturer's policy before the sale.

Usually you're shown a display monitor by the salesperson in the showroom and then buy one from the retailer in the manufacturer's box. This is a "sale by sample" and the retailer must provide you with a monitor that exactly matches, or is better than, the sample. If the display monitor had no dead pixels, then the monitor you buy must also have no dead pixels. Again, if you bought the monitor knowing of a fault or you were expressly informed of the manufacturer's dead pixel policy before the sale then you have no complaint.

If the retailer refuses to refund, exchange or repair an LCD monitor, contact your state's consumer affairs agency. The retailer may try to bluff their way out of

it by reference to the manufacturer's dead pixel policy. Do not accept this: insist on your rights to a fault-free monitor.

And remember, prevention is always better than cure. Never buy an LCD monitor unless you've seen it in operation. Make the retailer open the box, plug it into a computer and scrutinise every pixel before you part with your hard-earned.

David Porter
Richmond, Vic

David's sage advice and timely reminder of your basic rights as a consumer wins him our regular prize of a Logitech LX 700 cordless keyboard and mouse set, valued at \$199.95.



popularity. They seem to understand what people want. Is Microsoft going to be the next Nokia, giddy with its own success while its more nimble competitors creep up and steal market share?

Karl Hartmann
Botany, NSW

BACKUP WARS

I have noticed over the last few months the "war of the readers" over whether DVD copying software should be used to back up personal copies of DVD movies, in order to make sure that your originals don't get scratched or damaged.

I will never condone duplication of DVD movies you don't own, but it seems perfectly reasonable for private use. I buy many DVD movies, but to back them up relatively easily (without going through the time-consuming hassle of recompressing them to fit onto a cheap 4.7GB DVD), you have to buy Double Layer media, which is still around \$15 per blank disc. If you back up a movie which has a bonus disc, that's over \$30. It's often cheaper to buy a second copy of the movie for that price. And it's definitely more cost effective to buy originals of movies with over four discs.

This proves two points: backing up DVDs isn't such a cost-saver after all, and Double Layer media manufacturers don't have a viable business model!

Rodney Mayhew
Albany Creek, Qld

TOO HARD DRIVER

APC reader Richard Pieczuk wrote: "Hardware vendors [such as video card makers] should have some sort of read-only storage device integrated into the hardware (like a small ROM or flash memory chip) that contains drivers for the device" (APC January, page 28).

Fine, but what about other operating systems? Does he suppose that this "hard driver chip" should include drivers for Windows, Mac OS, Netware, BSD systems, GNU/Linux and other Unixes?

Another problem is the multiple versions of each OS. Some devices use different drivers based on the operating system's architecture, which would mean drivers for Windows 9x, NT, Me, 2000, XP or Mac OS 8, 9, X, and so on.

I agree that his idea would be amazing, but I'd like to see the cost of a device with a built-in 1GB "driver ROM". Until these are available for less than the cost of a pressed CD (20 cents?), I doubt we'll see manufacturers integrating them into their hardware.

The problem is still in the operating

systems. Some, such as GNU/Linux systems, have hardware support for hundreds of legacy devices built right into their kernel.

Sébastien Lanteigne
Port Vila, Vanuatu

QUICKEN'S LITE-ON

It's a case of *caveat emptor* with Quicken Personal 2005. This version has a reduced set of features compared with Quicken 2005SE/2004 — a better name would be "Lite 2005".

No longer can the user track his/her investment accounts, which are now only available in the Personal Plus version at an additional cost of about \$60. The Help file accompanying Personal 2005 is the same as the Plus 2005 version, which can be misleading because what it says about investment and superannuation doesn't apply to Personal 2005. The back of the Personal box highlights "Plan for the future", but how can you if you don't include superannuation?

Unfortunately, going to the Quicken Web site is the only way to compare current and previous versions. Don't rely on what salespeople tell you!

Bert Smith
Hobart, Tas

TRADE BARRIERS

I was attempting to purchase some replacement parts for my computer, so I jumped on the Web to look for a supplier and tried to order parts from three companies — Altech, Game Dude and Umart Online.

Altech advised that it mainly supplies to retailers, which is stated on its Web site. Game Dude and Umart Online accepted orders but dropped them like a lead balloon as soon as they realised I was not in Australia.

I can't understand what their problem is. I am an Australian citizen, with an Australian credit card, paying in Australian dollars. I live in Papua New Guinea. All they have to do is accept my money with a smile and put the parts in the post (which again, I would pay for). Where is the difficulty in that?

If these companies don't want to sell to customers offshore, why not say so on their Web sites and save us all time? As it is, they are missing opportunities to grow their business.

Graham Weston
Kiunga, Papua New Guinea

DELAYED GRATIFICATION

The big attraction for everyone with broadband Internet is speed — five to 10 times faster than normal dialup. Why, then, does it take forever to get connected?

Agenda: Your place to vent

CONTENT JUNKIE

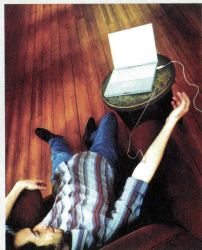
Whether music and video is downloaded "legally" or not has nothing to do with whether or not someone is going to buy it. I, like most people, have limited money to spend. My bookcase is filled with legitimate copies of all the best movies and music. Regardless of how many songs they put out, I could only afford to buy a limited number.

Everything the big companies say is predicated on the understanding that consumers have unlimited money and that all the music on the market is worth buying. Do they think they'll get any extra money by limiting availability of their products?

Secondly, I listen to the radio, watch TV, read magazines and browse the Internet. I pay money for all of it. Yet one way or another, each of these media dangles a carrot in front of our eyes. They tell us how good the content is, give us some free hits, get us hooked and then make us pay through the nose to own it.

Damn, I feel like a junkie. So whose responsibility is it really when the "content addict" commits "piracy"?

Ray Jewell
Preston, Vic



Who's greedy? The content junkie or the supplier who just wants to sell more and more product?

I recently signed up for a new ADSL connection by direct debit. I expected to wait a couple of days for funds to clear and transfer, but I was told it took a whole week for the

► money to be "received". Then it would take a further 10 days to connect, as Telstra has to arrange the physical connection. So, after signing up on the 1st of the month I'll be fortunate to be connected by the 21st — and there's still a chance Telstra will reject my connection altogether!

Although an ADSL connection may be able to surf the Internet 10 times faster than dialup, it also takes 10 times longer to connect. Some things just don't add up!

David Spencer
Macksville, NSW

MONOPOLY MONEY

Julie-Anne Angell is correct when she states that Microsoft is not a monopoly (*APC* January, page 30). But the distinction is academic. The fact that the US Government went to considerable trouble and expense in its antitrust case against Microsoft should serve as a warning.

Microsoft only seems to be interested in discounting its software in areas where open source, Linux, or corporate competitors have gained a substantial foothold. And why is it still so curiously difficult to buy a computer without Windows?

We may as well think of Microsoft as a monopoly or an oligopoly. History has shown that such entities are against the interests of

both the public and a healthy economy.

No-one expects or demands that corporations should be charities. No-one questions that intellectual property rights must be protected. The open source community is very serious in its support for such rights via its own GPL. But you do have to wonder whose best interests are being served when Microsoft feels the need to patent the mouse click.

Robert Hunter
Maylands, WA

THE SILVER SCREEN

Your article "Extreme mini PCs" (*APC* January, page 20) was interesting. The OQO unit was simply amazing in design, and I hope it does well. But while I agree that the present design for smaller computers is wrong, I don't agree with the conclusions reached by the designer of the OQO, and I won't be buying one in its present format. Why? Its design fails in the same way as so many phones and PDAs: its screen isn't properly protected, which will presumably lead to a scratched and shabby display after just a few months of use.

I believe the stated emphasis of designing devices so as to protect the keyboard is less desirable than designing them to protect the screen. My previous mobile phone and my digital camera have been damaged simply by carrying them around, but the Sony CLIE UX50 I have is still in good condition because of its clamshell design. I've never had any problems locking the keypad on my mobile phone; surely a mini computer can be made to lock an exposed keyboard similarly.

For me to purchase any small computer, camera or phone in future, it must have a protected screen. Designers please take note!

Jack Dwyer
The Junction, NSW

DISSING DOWNTIME

"Off the Hook"? "Bam"? Maybe I missed an issue, but did *APC* hit mid-life crisis?

APC is a serious, reliable, informative and occasionally humorous magazine. Please don't turn it into a vacuous phrase-of-the-minute fest. Your Downtime section is ill-advised and bereft of merit or content.

Unless you plan on sourcing staff from South London and peppering your articles with words like "naïf", "pants", "sodding" and "bollocks", I would strongly suggest putting down the Porsche brochure, stepping away from the peroxide, laying off the "humour" and coming to terms with reality (if not your age). It is not the object of any publication

with a soul to strive for "cool". You either are or you're not. Currently your magazine isn't so much "off the hook" as off its rocker. Or maybe naïf is a better way of putting it, or pants, or...

Simon Nix
Kilmore, Vic

THE 64-BIT QUESTION

As stated in *APC* January, 64-bit Linux has been released but 64-bit Windows has not. I'm currently upgrading my system to 64-bit and I use Windows a lot, so I want a decent 64-bit version of Windows to work.

What is Microsoft doing faffing around with Longhorn and Windows Media Center when it hasn't even caught up with 64-bit processors yet?

Lucas Zadrozny
Rooty Hill, NSW

HORRENDOUS MARKETING PLOY

I enjoy checking out the latest downloads on my *APC* cover disc, and when I saw Windows Media Player 10 I thought I'd install it. I opened it and noticed the nice new interface and CD-ripping feature — all good.

Unfortunately, when I was looking at my music library I noticed the album cover art and information had gone missing, replaced by some trashy icons which turned out to be ads for the ninemsn online music store.

Rather annoyed, I checked out the options and Google groups and found there's no setting to change it back to display music/album info by default.

However, there is a workaround. If you change the PC region settings (control panel, regional settings) to New Zealand, which has the same time and currency formats as Australia, the old album info is returned.

I guess when New Zealand goes down the Australian path with the ninemsn music store you'll have to change it to Papua New Guinea or something. I just hope some obscure country with similar date and time formats always remains isolated from this horrendous marketing ploy. WinAmp and iTunes are starting to look like much better options.

Gordon Falconer
Ivanhoe, Vic

Error Log

Reader Simon Magrin let us know that our *SUS Server Workshop* (*APC* March, page 104) has an error. Where we advise to use the command: "xml2msi sussetup.xml sussetup.msi", instead use "xml2msi -o sussetep.msi sussetup.xml".

Prize Pit

The lucky winner of our February subscription prize of an Epson EM-745 wireless 11g projector is Mark O'Connor of Melbourne, Vic. Congratulations!



Have your say

Add to these discussion threads or email your views (in fewer than 500 words) to epinions@apcmag.com.

All correspondence becomes the property of *APC* and is subject to editing. Letters sent to epinions@apcmag.com must include the writer's full name, suburb, state and phone number to be considered for print publication and in the running for letter of the month prizes. Phone details will not be published.



REAL WORLD
★ TESTING ★

On Test

Detailed product reviews and comparisons

apc Labs Challenges

56 Software Linux distros

Anton Tomazin and Caroline Leming road test eight distros for businesses and enthusiasts.



66 Hardware Sub-\$400 graphics cards

Valens Quinn checks out 10 PCI Express video cards with gaming in mind.



72 Hardware Small form factor barebones PCs

Run out of desk space? Nick Race looks at five contenders that are as solid as they are compact.

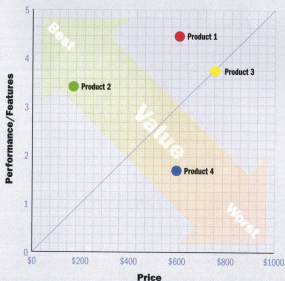


56 Beta Challenge Desktop search tools

Want to find crucial files quickly? David Emberton tests the latest crop of desktop search tools for Windows.



apc price-to-performance ratio



The APC price-to-performance ratio is a scatter graph, each point representing a reviewed product. The X axis represents price, and the Y axis indicates features and performance as derived from the verdict awarded to each item. The diagonal line represents a line of expectation — as prices increase, a proportional increase in features or performance is also expected.

34 Hardware Sonoma chipset

Intel's new platform promises to make life easier and richer for notebook users. *Matthew Overington* puts this claim to the test.

36 Software Symantec Ghost Solution Suite

This new suite means the end of administrators being spooked by distributing images and maintaining corporate infrastructure.

38 Software Borland Delphi 2005

The first "true" .NET version of Delphi is finally here... and remedies many of Delphi 8.0's imperfections.

40 Hardware Lexmark P6250 Photo Center

Lexmark produces a user-friendly tool for the amateur photographer.

40 Hardware Brother MFC-620CN

An MFD that's jack of all trades, and great value to boot.

42 Hardware PowerColor Radeon X850 XT and X850 XT Platinum Edition

Can ATI's new Radeon card close the gap on Nvidia's GeForce 6800?

44 Software Sony ACID Pro 5.0

Key enhancements make ACID Pro 5.0 a worthwhile upgrade.

44 Software Microsoft Windows AntiSpyware Beta

The software giant enters the war on spyware with its own solution.

46 Hardware ABIT Radeon 9250-ADT

Does a sub-\$100 graphics card really represent great value for money?

46 Software Google Picasa 2

Google's free photo application is back and ready to burn.

47 Operating system Mac OS X 10.4 "Tiger"

Apple's new version of OS X is all about getting things done efficiently.

48 Hardware Samsung 913N TFT monitor

The first sub-8ms TFT panel on the market sets new standards.

48 Hardware Acer TravelMate 382TCi

Outstanding battery life gives this sub-2kg notebook a boost.

50 Hardware Infinite C240-64 Workstation

This small box maker shows that a wise selection of parts is the key.

50 Hardware PalmOne Treo 650 smartphone

This second attempt at a converged device offers smart improvements.

52 Best Buys

Every month, APC's technical editor *Matthew Overington* compiles this guide to the hottest software and hardware products on the market.

Introducing Sonoma

Intel's new mobile platform promises to make life easier and richer for notebook users. *Matthew Overington* puts the claims to the test.

Centrino has been one of Intel's recent success stories, helping to introduce wireless networking to the general public. The company has invested enormous resources in marketing the platform, so there's little chance it's going to drop the branding — at least not in the near future. Instead, Intel is making slight changes to the line through regular updates to core architecture.

The Centrino platform launched in March 2003, codenamed Banias. This early implementation made use of the Pentium M processor (ranging from 1.3 to 1.7GHz), either the i855PM or i855GM chipsets (with the latter integrating Intel Extreme Graphics 2), and the Intel PRO/Wireless 2100B (802.11b) Wi-Fi adaptor.

The chipsets enabled the system to run with a 400MHz frontside bus, while the rest of the machine employed PC2100 DDR RAM and IDE hard disks.

This was followed in May 2004 by a version previously codenamed Dothan. Dothan expanded on the first release by adding the i855GME chipset (with integrated Intel Extreme Graphics 2), a new Pentium M processor built on a 90nm manufacturing process (clocked from 1.5 to 2.1GHz), and the Intel PRO/Wireless 2200BG (802.11b/g) Wi-Fi adaptor. This, like the first release, ran with a 400MHz frontside bus and made use of PC2700 DDR RAM and IDE hard disks.

In January this year, Intel launched another update to the Centrino platform, codenamed Sonoma. Intel has made a number of improvements to the existing platform for this release, stepping up the frontside bus speed, moving to a new chipset and bringing PCI Express to the mobile world for the first time. The Sonoma version of

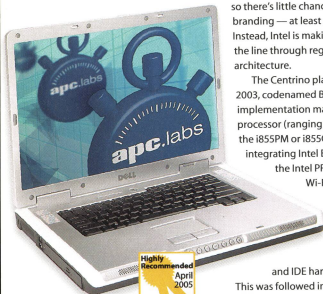
Centrino is built around the i915 chipset (with integrated Intel Graphics Media Adaptor 900), a 90nm Pentium M processor (1.5 to 2.13GHz), and the Intel PRO/Wireless 2915ABG (802.11a/b/g) Wi-Fi adaptor. The changes here mean that the frontside bus now runs at 533MHz, while the rest of the system can make use of Serial ATA hard disks and either PC3200 DDR RAM or 533/667MHz DDR2 RAM.

The new chipset is essentially a mobile version of the 915 desktop chipset Intel launched back in 2004. As a result, it includes support for 7.1-channel audio, Serial ATA hard disks and ExpressCard — a new expansion format that will replace PC Card. In fact, the easiest way to think of this upgrade is by equating it to the desktop move to PCI Express, as a number of the technologies presented on the desktop side of the game have now made their way to mobiles.

BOLD MOVES

The adoption of a mobile version of Intel's entry-level desktop chipset provides a wealth of handy features for customers. Firstly, the move to Serial ATA hard disks, while not immediately obvious to most consumers, enables quicker access to the drive's buffers, leading to quicker burst transfers and providing plenty of headroom for next-generation, faster hard disks. Serial ATA peaks at 150MB/s, making for extremely zippy transfers to and from the hard disk cache. Added power-saving features will also bode well for notebook battery life.

ExpressCard is designed to supersede the ageing PC Card (PCMCIA) slot found in most modern notebooks and provide some room for expansion. Though devices designed to make use of the ExpressCard interface are sparse right now, expect to see things like additional FireWire controllers, TV tuners and card readers. The integrated USB 2.0 controller provides support for up to eight ports, which should be enough to power even the most demanding and beefy desktop replacements.



Details

Dell Inspiron 9300

Contact	Dell
Phone	1300 303 107
Online	www.dell.com.au
Price	\$3,899
Intended market	Power users
✓	Improved battery life and performance.
✗	Bulky.
Verdict	★★★★☆

The Centrino story

2003: Banias

i855PM or i855GM with integrated Intel Extreme Graphics 2 chipset, Pentium M processor (1.3 to 1.7GHz) and Intel PRO/Wireless 2100B (802.11b) Wi-Fi adaptor. This ran at an FSB of 400MHz and made use of PC2100 DDR RAM and ATA hard disks.

2004: Dothan

i855GME with integrated Intel Extreme Graphics 2 chipset, 90nm Pentium M processor (1.5 to 2.1GHz) and Intel PRO/Wireless 2200BG (802.11b/g) Wi-Fi adaptor. This ran at an FSB of 400MHz and made use of PC2700 DDR RAM and ATA hard disks.

2005: Sonoma

i915PM, i915GM, i915GMS or i915GML chipsets, 90nm Pentium M processor (1.5 to 2.13GHz) and Intel PRO/Wireless 2915ABG (802.11a/b/g) Wi-Fi adaptor. This runs at 533MHz FSB, has 533MHz of DDR2 RAM and SATA support. Includes 7.1-channel audio and ExpressCard.

The move to a PCI Express-based chipset has produced a couple of tweaks to the Pentium M processor, reducing the differences between Intel's desktop and mobile architectures. For instance, the new Pentium M processors run on a 533MHz frontside bus instead of a 400MHz one, raising the theoretical bandwidth of the processor and making it more suited to intensive processing applications like running video editing software, encoding video or audio, or even gaming. They also feature the Execute Disable Bit (also called No Execute, or NX, by AMD), which provides some enhanced security by preventing the execution of unwanted or malicious code.

The same level 2 cache found on the Dothan-cored Pentium Ms is present, and the processors are now manufactured in the same way. In fact, the biggest difference is the core speed: the processor now runs at a core of 133MHz instead of 100MHz, enabling comparable performance at the same clock speeds as previous designs, but with a lower clock multiplier. This improves the scalability further down the track and will help drive faster Pentium M processors over the next year or two. The new processors launched include the 730, 740, 750, 760 and 770, which run at 1.6, 1.73, 1.86, 2.06 and 2.13GHz respectively.

Intel has also beefed up the Wi-Fi capabilities as promised, now providing support for 802.11a/b/g networks, incorporating support for Cisco standards such as LEAP, EAP-FAST and CKIP. This helps Centrino-based notebooks to integrate into a serious enterprise environment without the need for complex software to sit atop Intel's ProSet/Wireless software package.

The i915 chipset is compatible with both DDR and DDR2 memory, and as the latter is currently carrying a price premium, expect to see many vendors employing the older style of SODIMM in their products. DDR2 does have some advantages, though. Aside from being quicker than DDR, it also consumes less power because it's clocked slower internally than its older cousin (100MHz compared with 200MHz), making it more power efficient. It also runs at a lower voltage (1.8v compared to 2.5v), which helps prolong battery life.

Generally, an increase in performance goes hand in hand with a decrease in battery life. Not so with Sonoma. The platform provides support for Intel's Mobile Voltage Positioning (MVP), which allows the system to dynamically scale back processor voltage to match the demand of applications and increase battery life, while DDR2 memory actually draws less power than conventional DDR RAM.

MULTIMEDIA FOCUS

Intel has realised that while notebooks are predominantly purchased to drive productivity applications, they're increasingly being used in

downtime as well: playing DVDs, music or games, surfing the Internet and so forth. This has led the company to focus heavily on the multimedia components in a notebook. The i915 chipset adds Intel's Graphics Media Adaptor 900 (GMA900) to the mix, substantially bolstering the native video performance over the previous incarnation, Intel Extreme Graphics 2.

In testing, a 1.86GHz Pentium M-equipped ASUS notebook managed to score 4,869 under 3DMark2001 SE Pro — an acceptable result. This means adequate performance on older gaming titles such as Half-Life, but the systems will lag somewhat in modern titles. There's still provision for system builders to integrate beefier third party mobile graphics adaptors, and you can expect the performance of these to be raised a notch throughout 2005.

The big news — at least for those who use notebooks to watch DVDs — is the inclusion of Intel's High Definition Audio, a 7.1-channel audio design that supports DTS, THX and Dolby technology to enhance notebooks used to drive home theatre systems. Though this may not be of concern for road warriors running thin and light machines for productivity, it is fantastic news for companies like Toshiba which manufacture high-quality wide-screen notebooks for recreational use.

TESTING

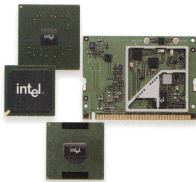
The first Sonoma-based machine in the APC Labs was Dell's Inspiron 9300, a revision to the Inspiron 9200 (APC March, page 44). This massive desktop replacement is ideal for assessing the performance of Sonoma, as it's almost identical to one of the last 855-based notebooks seen through APC Labs, save the upgrade to a Sonoma platform. The review Inspiron 9200 included a 2.1GHz processor, 1GB of DDR RAM and a 60GB hard disk, the 9300 makes use of the same screen and chassis, but with Sonoma guts — a 2.13GHz Pentium M processor, 1GB of 533MHz DDR2 RAM and a Serial ATA hard disk.

APC ran identical benchmarks on each to assess the performance differences, and the results were pretty much in line with Intel's claims. While the previous model managed three hours and five minutes of battery life during testing, the Sonoma-based version extended this to three hours and 19 minutes (a gain of around 7.5%). Multimedia Content Creation Winstone 2004 rose 9.2% from 20.5 to 22.4, and Business Winstone 2004 results leapt by 12% from 23.4 to 26.2, showing off the advantages of the PCI Express platform.

Keep an eye out for Sonoma-based notebooks from every vendor on the market, as they offer increased performance and battery life over their predecessors. With fuel cells around the corner, the day will soon come when we see powerful, portable notebooks with several days' battery life. tiny.cc



Game on: Intel's GMA900 video provides acceptable, though not blistering, gaming performance.



Game, set and match: the Centrino group of mobile components offer clear benefits for notebook users.

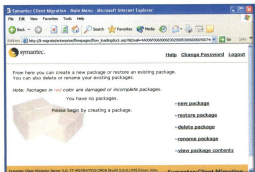


Details Sonoma

Contact	Intel
Phone	(02) 9937 5800
Online	www.intel.com.au
Intended market	Everyone
✓	Enhanced performance: improved battery life.
✗	DDR2 memory expensive.
Verdict	★★★★★

Symantec Ghost Solution Suite

This new suite means the end of administrators being spooked by distributing images and maintaining corporate infrastructure.



Migration Client: create backup packages in preparation for reimaging or upgrading.

Alternatives

These Microsoft products handle patch management and remote application installs: **Systems Management Server** www.microsoft.com/sms/server **Software Update Services** www.microsoft.com/windows/serversystem/sus/default.mspx **Windows Update Services** www.microsoft.com/wus In a Novell environment, **Novell's ZENworks** (www.novell.com/products/zenworks/index.html) handles imaging and management on Windows and Linux machines.



Details

Contact	Symantec
Phone	(02) 8679 1000
Online	www.symantec.com.au
Price	From \$51.12 per licence
Intended market	Enterprise
✓	Comprehensive solution; very powerful and flexible.
✗	Strongly tied in to Microsoft products.
Verdict	★★★★★

Maintaining business desktop images and system stability was once the bane of network admins' existence. Symantec's Ghost Solution Suite brings three enterprise technologies together: Ghost Corporate Edition (version 8.0, which is the same as the standalone); Client Migration; and DeployCenter Library. This is to provide all the necessary tools for system administrators to centrally control image deployment to remote workstations and servers, manage application

installs, patch management and user migration, and securely wipe systems at the end of their lifecycle.

Automating the imaging process is handled by the Ghost Console. The Console Agent is installed on workstations and communicates back to a dedicated Console Server, uniquely identifying the workstation via its MAC address. This lets the server target any workstation no matter where it sits on the network, and machines can be organised into logical groups based on physical location for ease of management. The agent acts as a launching platform for the server, enabling it to give imaging commands, gather detailed hardware and software inventories, or push out remote application installs.

BACKUP SIMPLIFIED

The Migration Client is like a centrally-controlled version of the XP File and Settings Transfer Wizard. A dedicated Migration Server (running an MSDE 2000, SQL Server 2000 or SQL Server 7 database) allows authenticated users to create backup packages in preparation for reimaging or upgrading. These packages contain Windows profile information and application settings, and are restored to the client once imaging is complete.

Administrators can create backup templates for individual users and groups via the Migration Control Center (which can be installed anywhere), providing a basic backup structure. Users authenticate to the server via a Web browser to create or restore backups, and these transactions are handled by the Migration Client. Users can add files and folders into the package beyond those specified by the template. For restricted users, administrators can use AutoMigrate (an executable stored on the client) and

it can be launched using command line batch or scripting. The client supports Windows 95, 98, 2000 and XP Professional, but not Me or XP Home.

To cut down on excessive network traffic, files can be stored locally on the machine in a Client Staging Area. This section of the drive can be preserved during a subsequent Ghost operation, or burned to CD/DVD and manually restored. However, there is an element of risk with this, and full backups to the Migration Server are recommended. At the end of a machine's life cycle, administrators can use Ghost GDisk to securely wipe the hard drive.

REVOLUTIONARY

The Solution Suite's practicality in the corporate environment depends on existing work practices and infrastructure. It provides the most benefit in a high-bandwidth Windows domain where SOE's are rigidly applied and maintained. Ghost works well in Novell Netware environments (which generally have Windows-based workstations), but as it can't read the NDS tree, it's unable to provide the same authentication and migration services as it can within a Windows domain.

The suite supports imaging of Linux partitions, but there is no version of the Console Client or Migration Client for Linux, although incorporating a Ghost boot partition as part of a Linux-based SOE will allow remote imaging from the Console Server. Regardless of the network back end, the Suite's server components must be installed on Windows-based machines. Although the AutoInstall feature is great for patch management, it's not as comprehensive as the free Windows Update Service (WUS), which offers targeted software updates.

The Migration Client is a fantastic tool — it plugs straight into Windows domain authentication and gives administrators great control over backing up. However, it presupposes a lot about existing work practices and users' computer skills. The backup templates created in the Control Center are comprehensive, and if the location of all relevant user files on the SOE are known, they should meet each user's needs. However, if users are in the habit of creating additional folders outside the known structure (C:\Personal rather than %userprofile%\My Documents\Personal, for instance), the onus is placed on the user to ensure a full backup.

As the Migration Client isn't foolproof, it's probably not practical in large-scale organisations, where a greater number of users means greater risk of lost data.

Overall, the Suite is a comprehensive tool, and would be a compelling addition to any network.

James Bannan

State of the art monitors... Whichever way you look at it...



State of the art design, state of the art technology... Available in screen sizes from 15" to 40", NEC LCD Monitors boast unrivalled screen performance with leading edge technology that makes your visual experience both comfortable and enjoyable. As well as delivering outstanding image quality with minimised glare, reflection and distortion, NEC LCD monitors offer a wide array of features and options such as XtraView® wide-angle viewing, Rapid Response™ for virtually uninterrupted, undistorted viewing of high-speed, full-motion video, portrait/landscape viewing, high efficient backlight promoting extraordinarily long life, a wide range of inputs available, No Touch Auto Adjust allowing the monitor to automatically sync with your graphics card, adjusting screen settings for optimal viewing. All of this and more, in a lightweight design and ultra thin frame, NEC LCD Monitors define the fine art of technology.



**AccuSync
MultiSync**

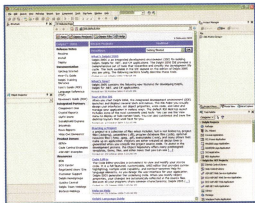


Empowered by Innovation

Call 131 632 from anywhere in Australia or log on to www.nec.com.au

Borland Delphi 2005

The first "true" .NET version of Delphi is finally here... and remedies many of Delphi 8.0's imperfections.



Caught in the .NET: Delphi now employs the .NET framework and allows C# editing.

Borland's Turbo Pascal revolutionised the way applications were developed. It featured a bevy of innovations, including an integrated development environment (IDE), integrated debugging, and syntax highlighting. These features provide developers an environment to work within, as well as a methodology to follow. The first version of Delphi was released in 1995, providing developers of object Pascal with a way to create applications more quickly and easily than before, with the concept of

maximum code reuse at its core.

Delphi 2005 is available in three flavours — Architect, Enterprise and Professional. All versions allow Delphi development for Win32, .NET and now C#. This is one of the best features of Delphi 2005, as C# developers now have an IDE choice. The list of new features is extensive, with tweaks to RAD WYSIWYG ASP.NET Web forms development, and a deployment manager for ASP.NET, database construction is also bolstered.

Enterprise adds several features over Professional, including the IntraWeb application mode designer, extra database connectivity, XML Transformation Tools and Janeva integration for .NET/J2EE connectivity. Architect offers Enterprise Core Objects II (ECO), where developers can simplify the creation of complex applications, and Optimizet Profiler. For detailed information about each version, see the PDFs on this month's cover DVD.

BACK ON TRACK

Until version 8.0, Delphi offered a constant stream of improvements and updates to the environment and development platform. Unfortunately, Delphi 8.0 left a bad taste in the mouths of many long-time users. It was plagued with poor documentation (something Delphi had always done well) and cross-language compatibility problems. At the forefront of these language issues was the integration of the .NET Framework development tools.

Delphi 2005 has remedied most of these issues and, despite some lingering problems, appears to be what Delphi 8.0 should have been. At first glance, the Delphi 2005 IDE appears to be identical to the

Delphi 8.0 IDE, but there are subtle differences. The History Manager allows developers to view and compare prior versions of files, including multiple backup versions, which are automatically created when updating and saving files within the IDE. It also reverts to a floating-style IDE.

MASS CHANGES

One welcome new feature of the Code Editor is the ability to change all instances of a variable using the Sync Edit Mode after first selecting a block of code that contains instances of that variable name. Another is the ability to convert selected code into a comment with one keystroke, while the Enable Error Insight option automatically highlights invalid code and HTML. By hovering the mouse over these highlighted areas, developers receive hint windows with links to context-sensitive help when available.

Delphi has always been the best product for database applications, so it's no surprise to find a host of enhancements to the database support sections. Database developers are now able to drag-and-drop procedures from a provider in Database Explorer onto a form in the Designer. This feature automatically adds and configures a BdpConnection and a BdpCommand component, then populates the accrued stored procedure parameters.

Migration of information from one data provider to another is now possible through context-sensitive menus for tables, which allow developers to copy a table of data and paste it as a completely new table in a separate provider.

Delphi 2005 is by no means perfect. Developers who used version 3.0 may be inclined to try out the old floating-style IDE, but the 2005 version is much slower when drawing forms and windows on the screen. As a feature that was requested by the majority of Delphi developers, we can only hope this issue will be addressed in an upcoming patch.

The default interface isn't all it could be either, and will require most developers to customise the layout. And the toolbox introduced in Delphi 8.0 is still there — rather than hiding the Win32 tools while developing non-Win32 applications, it displays all the tools, even though the rest of the IDE changes to reflect the type of project. Finally, the Structure panel constantly displays errors as you type code until you add the final semicolon to complete the line — distracting until you get used to it.

While Delphi 2005 is undeniably pricey, it's a tool of trade for countless professional developers and a truly impressive piece of engineering. Licence upgrades are also available for existing users.

Luke Parsons

Bonus DVD software

Borland Delphi 2005 Architect (trial version)

- Feature Matrix PDF
- System Requirements PDF
- Technical Overview PDF



Details

Contact	Borland
Phone	1300 799 688 (upgrade, \$702); Enterprise, \$3,804 (upgrade, \$2,276); Architect, \$5,331 (upgrade, \$3,498)
Online	www.borland.com.au
Price	
Intended market	Professional developer
✓	Solid, feature-packed.
✗	Some minor unwelcome quirks.
Verdict	★★★★☆



The most flexible colour printers.

Ricoh offers the largest range of colour laser printers and multifunctional devices. Because we have so many combinations of speed and configuration, we can recommend one that best meets your office document needs and budget. With a national network of dedicated Ricoh service support centres and with flexible finance packages, if you want a flexible printing solution, the solution is Ricoh. Contact Ricoh on 1800 181 002 for your nearest Ricoh Business Centre or visit our website at www.ricoh.com.au Ricoh. How well do you share?

RICOH
Image Communication

Lexmark P6250 Home Photo Center



Details

Contact	Lexmark
Phone	1300 362 192
Online	www.lexmark.com.au
Price	\$399
Intended market	Everyone
✓	User-friendly; fast prints; card reader; 2.5in LCD.
✗	No fax or network abilities; high cartridge costs.
Verdict	★★★★☆

Lexmark produces a user-friendly photo printer and scanner for the amateur photographer.

While the advent of digital photo kiosks (which provide quick, high-quality prints for less than \$1) may sway some users from photo printers, Lexmark is evidently convinced there's still a market for such a product. The P6250 also incorporates the ability to print borderless, six-colour images at 4,800dpi (4,800 x 1,200) using thermal inkjet technology, as well as a 1,200 x 2,400 (optical) CIS scanner for digitising and copying. There's no fax capability, but this won't be an issue for most home users.

The Lexmark boasts a number of compelling features such as the 2.5in colour LCD, enabling comfortable viewing of image previews and animated tutorials.

The ink cartridges are a mixture of pigment and dye-based colours — a feature unique to Lexmark — but this hasn't resulted in any tangible increase in print quality over unmixed cartridges such as those in the Brother MFC-620CN (see below). Lexmark claims that black cartridges will last through 475 pages at 5% coverage, while colour cartridges will

print 450 pages at 15% coverage. Unlike the Brother, the P6250 lacks a networking port and can't be connected directly to a hub, switch or router to be used as a print server. An external print server can be purchased for \$294.63.

PictBridge compatibility enables users to connect a digital camera directly via USB, CF, SmartMedia, MMC, SD, Memory Stick or x-D cards. Photo optimising software is bundled, though most users will already own more sophisticated editing programs. It also includes OCR software to scan documents and convert them into editable text.

The P6250 reproduces text documents and images well. Photographs are vibrant, but detail in darker areas is lost and some banding is evident. A 1.14MB JPEG test image prints from PhotoDisc in one minute and 20 seconds.

While the P6250 is ideal for amateur photographers, connoisseurs will find that a dedicated photo printer produces more detailed prints, while the hefty ink cartridge costs common to Lexmark printers (\$43.99, \$37.99 and \$42.99 for photograph, colour and black cartridges respectively) are another deterrent.

Asher Moses

Brother MFC-620CN



Details

Contact	Brother
Phone	(02) 9887 4344
Online	www.brother.com.au
Price	\$399
Intended market	Everyone
✓	Networking abilities; individual ink cartridges; card reader.
✗	Not as user-friendly as the Lexmark unit.
Verdict	★★★★☆

Brother's latest MFC is the ultimate jack of all trades, and great value to boot.

In the past, the convenience of multifunction devices has often resulted in a quality trade-off. Thankfully, Brother has produced an MFD that's reasonably priced and excels in all areas.

While the Lexmark P6250 (above) focuses on photo printing, Brother has targeted much wider functionality with its GDI-based 620CN. Printing, scanning, copying and faxing are all supported, with maximum printing resolution at 6,000 x 1,200dpi and scanning at 600 x 2,400. Unlike the Lexmark, the 620CN utilises four separate ink cartridges (black, cyan, magenta and blue), meaning you only have to replace a single cartridge when one colour is depleted — a huge money saver.

Of these cartridges, the black ink is pigment-based while the colour inks are dye-based. More importantly, inks are reasonably priced — colour refills cost \$16.50, black costs \$29.70. Expect 400 pages at 5% coverage from a colour cartridge and 500 pages at 5% coverage from the black cartridge.

The card reader supports all major media types, and 16MB of onboard RAM ensures that even extremely high resolution images are handled with

ease. The 620CN doubles as a phone answering machine and features networking abilities that enable it to be used as a print server for a home or small office network. Out of the box, only wired Ethernet networking is supported, but an 11Mbit/s external wireless print server is available for \$249.

The software package isn't as intuitive as Lexmark's, but all the staples are included, such as a control centre for the device's scanning functions and OCR technology.

Text and image output is on par with the Lexmark in terms of quality. Speed was even more impressive, with the unit printing the test image in one minute and 15 seconds. Ironically, the Brother surpassed the P6250 in photo printing, with considerably less banding and far greater detail thanks to its use of Brother's new capillary tube technology, which pipes ink from fixed tanks in the printer body to the light print heads.

Although it can't match the output of a high quality dedicated photo printer, this package simply can't be beaten. Its feature set and performance ranks it among the best MFDs to pass through the APC Labs. At just \$399, you'd be foolish not to put this one high on your shopping list.

Asher Moses

GIGABYTE 8Σ

Series **Motherboard**
for AMD Athlon™ 64 Processor



Fusion of Technology & Performance



GIGABYTE 8 Sigma series

GA-K8NXP-SLI NVIDIA nForce4 SLI Chipset

- AMD Athlon™ 64FX /Athlon™ 64 socket 939 platform
- GIGABYTE unique Dual Power System (DPS) design
- NVIDIA SLI Multi-GPU Support for extreme graphics performance
- Supports NVIDIA SATA II and RAID for advanced storage application
- Dual Gigabit LAN solution with 54Mbps Wireless LAN solution
- Enhances network security with NVIDIA ActiveArmor™ powered Firewall
- Integrated T.I. IEEE 1394b FireWire interface



54Mbps Wireless Adapter Included!

SLI - Multi-GPU Serial ATA II Dual Gigabit LAN

IEEE 1394b 8-Ch Audio Dual BIOS



K8 Triton™ series

GA-K8N Ultra-SLI NVIDIA nForce4 SLI Chipset

- AMD Athlon™ 64FX /Athlon™ 64 socket 939 platform
- NVIDIA SLI Multi-GPU Support for extreme graphics performance
- Supports Dual Channel DDR400 memory architecture
- Supports NVIDIA SATA II and RAID for advanced storage application
- Dual Gigabit Ethernet solution
- Enhances network security with NVIDIA ActiveArmor™ powered Firewall
- Integrated T.I. IEEE 1394b FireWire interface



SLI - Multi-GPU Serial ATA II Dual Gigabit LAN

IEEE 1394b 8-Ch Audio Dual BIOS



GIGABYTE 8 Sigma series

GA-K8NXP-9 NVIDIA nForce4 Ultra Chipset

- AMD Athlon™ 64FX /Athlon™ 64 socket 939 platform
- GIGABYTE unique Dual Power System (DPS) design
- Supports New Generation PCI-ExpressX16 Graphics interface
- Supports NVIDIA SATAII and RAID for advanced storage application
- Dual Gigabit LAN with 54Mbps Wireless LAN solution
- Enhances network security with NVIDIA ActiveArmor™ powered Firewall
- Integrated T.I. IEEE 1394b FireWire interface



54Mbps Wireless Adapter Included!

Serial ATA II Dual Gigabit LAN IEEE 1394b

8-Ch Audio Dual BIOS

For more information, please call our distributors:

Australia
N.S.W. SYNEX 02-9318-9850 VICTORIA SYNEX 1300-880-038
MELB. SYNEX 02-9318-7725 (TOLL-FREE)
QUEENSLAND SYNEX 07-3902-6300
PERTH SYNEX 08-9204-5700

New Zealand
Black Diamond Technology Limited 64-4-560-9100
Cheekine New Zealand Limited 64-9-574-8827
Ingram Micro NZ LTD 64-9-574-2500

* These speed settings are not guaranteed by Gigabyte.
If the specification and picture are subject to change without notice.
All trademarks and logos are the properties of their respective holders.
Any reproduction in any form, without the permission of Gigabyte Technology, shall not be acceptable.
For any damage or liability to your products, motherboard, or any other computer.

Upgrade Your Life™ www.gigabyte.com.tw

GIGABYTE™
TECHNOLOGY

PowerColor Radeon X850 XT and X850 XT Platinum Edition

Does ATI's latest Radeon offering close the gap on Nvidia's GeForce 6800 in the battle of the video cards?



Fan club: the dual-slot cooling solution makes the Radeon X850 series more efficient than its predecessors.

Details

Contact Australia IT
Phone 1300 668 715
Online www.australiatit.com.au
Price X850 XT, \$845; X850 XT PE, \$945

Intended market Performance enthusiasts

✓ Blistering performance.

✗ Two-slot cooling solution.

Verdict ★★★★★

Benchmarks

3DMark05 Pro 1,024 x 768

0	Radeon X850 XT PE	5,988	10K
0	Radeon X850 XT	5,520	10K
0	Nvidia GeForce 6800 GT	4,712	10K

3DMark03 Pro 1,024 x 768

0	Radeon X850 XT PE	13,034	20K
0	Radeon X850 XT	12,068	20K
0	Nvidia GeForce 6800 GT	11,462	20K

Far Cry 1.3 1,024 x 768 (max detail)

0	Radeon X850 XT PE	63.6fps	100
0	Radeon X850 XT	62.1fps	100
0	Nvidia GeForce 6800 GT	57.2fps	100

Doom 3 1,024 x 768 (max detail)

0	Radeon X850 XT PE	84.9fps	100
0	Radeon X850 XT	78.6fps	100
0	Nvidia GeForce 6800 GT	83.7fps	100

Unreal Tournament 2004 1,024 x 768 (4xAA/8xAF)

0	Radeon X850 XT PE	152.7	200
0	Radeon X850 XT	152.4	200
0	Nvidia GeForce 6800 GT	149.7	200

Doomed: with one exception, Nvidia runs third in our tests.

ATI has been suffering at the top end of the video card market, with its X800 series struggling to keep up with Nvidia's GeForce 6800 range, which has held the fastest PC video card mantle for several months. ATI recently launched the X850 to address that issue, and PowerColor was quick to send APC full production models of the X850 XT and X850 XT Platinum Edition cards for review.

The first things you notice about these cards are the dual-slot cooling solutions. These were first popularised (and criticised) when Nvidia opted for double-width cooler on its top end GeForce FX 5000 series cards, but this is the first time ATI has implemented them. This impressive cooling system is touted by ATI as one of the improvements between the X800 and X850, as it's more efficient than the single-slot design. A 6-pin power connector is also fitted, though you'll find an adaptor to allow connection to a regular 4-pin molex lead in the box.

ATI VERSUS ATI

On paper, the differences between the X850 XT and X850 XT PE cards are quite minimal, with both featuring the same core processor which boasts 16 pixel pipelines and six programmable vertex shader pipelines. Each card has support for a horde of ATI technologies, including Hyper Z HD, SmartShader HD, SmoothVision HD and VideoShader HD. Both are built on a 0.13 micron process, with 256MB of 256bit GDDR3 memory, and fit the PCIe form factor.

The biggest differences are the core clock and video memory speeds: 520/540MHz for the X850 XT, and 540/590MHz for the X850 XT PE. This translates into a memory bandwidth of 34.5GB/s for the XT and 37.76GB/s for its bigger brother. The fill rates look equally impressive on paper at 8.32 and 8.64 gigapixels per second respectively. Both cards are designed to support DirectX 9.0 and OpenGL 2.0, meaning they're built for the latest-and-greatest gaming titles available.

ATI VERSUS NVIDIA

APC opted to directly compare the performances recorded by these

two ATI-based cards with an Nvidia GeForce 6800 GT reference board sitting in the Lab. The test system consisted of a 3.43GHz Pentium 4 Extreme Edition processor running on an Intel i925XE reference board with a 1,066MHz frontside bus, 1GB of 533MHz DDR2 SDRAM and a single 250GB Serial ATA Maxtor MaxLine 3 hard disk.

All tests were conducted using Windows XP Professional Edition, with Service Pack 2 installed. To level the playing field, latest-release WHQL-certified driver sets were used — 66.93 for Nvidia ForceWare, dated 9 November 2004, and 6.14.10.6505 for ATI Catalyst, dated 17 January 2005.

TRIED ON THE BENCH

A standard suite of benchmarking tests were run to assess performance of video cards, made up of a number of synthetic and real-world gaming tests. The synthetic tests consist of 3DMark05 Pro build 110 and 3DMark03 Pro build 350, while the gaming tests include Far Cry 1.3, Unreal Tournament 2004 and Doom 3. The results can be seen in the benchmark charts on the left, but it's clear that the PowerColor Radeon X850XT and Platinum Edition are the new speed leaders in the APC Labs.

The XT manages a handy lead over Nvidia's GeForce 6800 GT reference board in both 3DMark tests, and the PE version extends that advantage slightly. Gaming benchmark results are less clear-cut. The 6800 GT puts in a strong showing in Doom 3, scoring 83.7fps — slightly behind the X850 XT PE's 84.9fps and ahead of the X850 XT with 78.6fps. But Doom 3 is highly optimised for the Nvidia card.

BUT WAIT, THERE'S MORE

Both the XT and XT PE ship with an impressive list of bundled accessories, including driver software, the full version of Pacific Fighters, and CyberLink's PowerDirector 3.0SE+, Power2Go, PowerDVD 5.0, PowerProducer 2.0 Golden DVD and Medi@show 2.0SE+. This software suite is backed up by a complete set of cables: two DVI adaptors, video-out cable, HDTV cable, composite cable and 9-pin VIVO connector. Given that the Platinum Edition card is close to the \$1,000 mark, this list of extras is expected, not a bonus. A non-VIVO edition of the X850 XT is available for \$795.

Ultimately, though, the bundles are just sweeteners; the performance of ATI's new flagship video cards is enough to sell them to most dedicated gamers. Currently Nvidia is the only company with an SLI solution, meaning the fastest video subsystem available is based on Nvidia's hardware, but the cost of a motherboard and two GeForce 6800 GT cards is prohibitive. Advantage ATI.

Matthew Overington



Sony Ericsson



P910i

One device.
Every possibility.



The Sony Ericsson P910i is a mobile phone. It's a PDA. It's a mobile office and it's push email ready.

Synchronise your contacts, email and calendar with any desktop or laptop computer. When you find yourself away from the office or at an airport lounge and you need to go online, the P910i will take you there with real internet browsing.

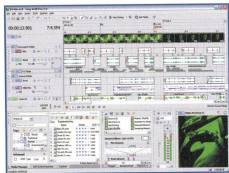
The P910i smartphone. *One device. Every possibility.*

symbian
OS

Making it easy for you to update
your phone with new, fun and
useful applications.

www.sonyericsson.com.au

Sony ACID Pro 5.0



Key enhancements make ACID Pro 5.0 a worthwhile upgrade.

Many music makers, both amateurs and pros, use Sony's loop-based audio editor for creating backing audio for videos and even songwriting. ACID is popular because it's both relatively easy to use and powerful, with an intuitive interface that makes it simple to drag audio onscreen.

The best new feature in version 5.0 is a Media Manager that lets you catalogue all your samples and assign metadata, a godsend for those with huge sample collections. Unfortunately, all tags have to be added manually. The application relies on Microsoft SQL Server Desktop Edition (MSDE) to store the data, which ends up being quite resource-hungry — a memory footprint of 165MB was measured during operation.

The software features support for an unlimited number of audio and MIDI tracks, direct burning to CD and now native VST and VSTi support. Full automation of tempo-based DirectX effects has been added in this release, which can greatly speed

editing. A new feature called Groove Mapping is also included: this quantisation tool enables the editor to morph loops and MIDI and works well, though it takes some fiddling before you learn to get the most out of it. It also ships with 1,000 copyright-free loops.

One of the complaints levelled against ACID is its cluttered interface. Version 5.0 includes Virtual Track folders that can be used to store groups of tracks and save screen real estate. These groups can be expanded or collapsed as required, enabling the user to focus only on what they're working on at the time. It's also much more reliable. Though version 4.0 had a nasty habit of regularly crashing the RAM-crammed 3GHz Pentium 4 test machine, version 5.0 remained 100% stable during the testing period.

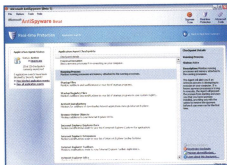
ACID Pro 5.0 is recommended for anyone who works with loops, whether for songwriting, making backing music for videos, or even as an editor for creating short samples for use in other applications. Though the new Media Manager is a resource hog, and populating the database with useful tags is time-consuming, it makes it much easier to find what you're looking for. The added stability and improvements to speed editing are also welcome.

Matthew Overington

Details

Contact	New Magic
Phone	(02) 9528 4555
Online	www.newmagic.com.au
Price	\$599; upgrade, \$199
Intended market	Prosumers
✓	Stable; useful new features.
✗	Resource intensive.
Verdict	★★★★☆

Microsoft Windows AntiSpyware Beta



The software giant enters the war on spyware with its own solution.

With Microsoft under fire for lacklustre security implementations in recent years, it was only a matter of time until it released its own spyware suite. Windows AntiSpyware Beta is straightforward and runs minimised to the taskbar like MSN Messenger.

On installation you're asked whether you'd like to join the SpyNet network, made up of users sending spyware information back to Microsoft. Windows AntiSpyware downloads updated spyware definitions (like a virus scanner) from Microsoft servers, which are constantly updated.

There's a memory hit of around 30MB, but tests run before and after installation suggest a negligible impact on performance. In testing, a full scan was performed and the results compared with Spybot Search & Destroy and Ad-Aware. Neither Ad-Aware nor Windows AntiSpyware detected any problems, but Spybot found five active data source exploits.

Windows AntiSpyware's real-time protection comes in the form of security agents — Internet,

system and application. Each agent contains "checkpoints", tasks dedicated to monitoring a specific area of the system. Each checkpoint can be disabled if you don't feel it's needed, such as modem security when you're attached to a network.

Real-time protection of Internet activity isn't actually handled by the Internet checkpoints — they monitor the networking aspects of your system, like dialup/Wi-Fi activity, proxy information and TCP/IP settings. The main protection comes from the Application agent, where 16 of the 25 checkpoints are dedicated to looking after Internet Explorer and preventing unauthorised changes to settings such as Menu Extensions and Trusted Sites. AntiSpyware is evidently designed to protect IE and nothing else.

The Advanced Tools section lets you see what changes (if any) have been made to your system and get rid of unknown or hazardous objects. Application history, passwords and so on can be cleared and IE settings reset if they've been changed. However, they can only be reset to Microsoft, not personalised, standards.

Though thoughtfully designed, Windows AntiSpyware isn't a great option if you don't use IE, and it's advised you supplement with Spybot.

James Bannan

Details

Contact	Microsoft
Phone	13 20 58
Online	www.microsoft.com.au
Price	Free
Intended market	Everyone
✓	User-friendly; detailed explanations of security concepts.
✗	No support for third-party browsers.
Verdict	★★★★☆

ASUS DVD Burners enable 16X Burning with 8X Discs

Although DVD burning technology has progressed to 16X, the supply of disc media supporting this new high-speed standard remains low. Even if you are one of the lucky few that is in possession of these expensive discs, you still have to worry about burning reliability unless you want a stack of overpriced coasters.

Optical drive makers, of course, won't let their technological advancements go to waste. Take ASUS for example, the company introduced an innovative feature called "Over-Speed Burning". This feature enables users to enjoy fast 16X burning with 8X discs, which are more readily available and more affordable. It's a cost-effective way to shorten burning time.

Double burning speed on dual-layer disks

Over-Speed Burning also supports double-layer discs, which offer large data capacity up to 8.5GB, roughly 2,000 MP3 songs. Most double-layer discs at the moment support 2.4X speed, meaning to burn a full disc takes approximately 40 to 50 minutes. 4X discs are available as well, but higher speed also comes with higher price. With Over-Speed

Burning, you can burn an 8.5GB, 2.4X double-layer disc in only 26 minutes.

Disc quality detection for best burning speed

The advantages of Over-Speed Burning are pretty obvious. The one thing you need to pay special attention to is disc quality. Please make sure you purchase discs approved by the manufacturer of your drive. ASUS implement a mechanism for disc quality detection and intelligently adjust for the most suitable burning speeds to prevent poor quality and damaged discs.



In conclusion, if you know what to look for, enjoying the fastest burning speed doesn't necessarily have to mean emptying your wallet. DVD burners with Over Speed Burning are excellent solutions as the shortage of 16X and 4X dual-layer discs continue and these discs remain expensive.

Double layer burning comparison

Disc media	Burning speed	Burning time	Good	Bad
2.4X	2.4X	40-50 min	• Disc is easily attainable • Affordable	Long burning time
4X	4X	26 min	• Short burning time	Supply is low Very expensive
2.4X	Over Speed at 4X	26 min	• Disc is easily attainable • Affordable • Short burning time	High-quality discs needed

The Choice of Expert Gamers

ASUS Gamer Edition Cards Deliver Big Bang for the Buck

The launch of new titles such as Lineage II and Doom 3 should propel a wave of system upgrades among serious gamers, since more powerful video performance is needed to smoothly run the latest 3D games. Taking into account that many gamers probably don't have huge budgets to enhance their gaming systems, ASUS, a leading provider of graphics solutions, recently introduced special Gamer Edition video cards, which offer explosive graphics at affordable prices.

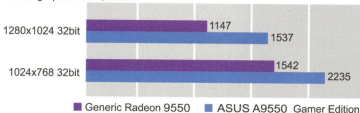


Improved circuitry and memory modules

Gamer Edition cards, as the name suggests, are specifically tailored towards keen gamers. Gamer Edition cards have redesigned circuit boards, upgraded memory specifications along with other extra features. Compared with solutions supporting the same graphics core, ASUS

Same performance using lower-end graphics core

It takes strong engineering to be able to redesign the reference card. The ASUS V9999 Gamer Edition runs on Nvidia's 6800 chipset, but the card's performance actually approaches those supporting the next-level chipset, the 6800GT.



3D Mark 2003

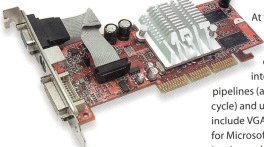
Gamer Edition cards deliver superior video performance.

For example, the ASUS A9550 Gamer Edition (supporting ATI's Radeon 9550 chipset) provides a 25% performance increase compared with typical Radeon 9550-based graphics cards. And the ASUS V9250 Gamer Edition (supporting Nvidia's FX5200 chipset) is 50% more powerful than other FX5200 solutions.

With higher-end memory, the prices of Gamer Edition cards are slightly higher than solutions using the same graphics core, but enable far better video capability. ASUS Gamer Edition is currently the choice of many gaming experts and users who demand top-of-the-line visual effects. Give a little more and you'll get back so much more.

ABIT Radeon 9250-ADT

Although this graphics card is under \$100, its outdated technology sells it short.



At the value end of ATI's Radeon range lies the 9250-ADT, based on the core technology of the 9200 series. The card has 128MB of DDR RAM, 240MHz internal clock, four hardware rendering pipelines (a maximum of four pixels per clock cycle) and uses a 4x/8x AGP bus. Other features include VGA, DVI and S-Video outputs, support for Microsoft DirectX 8.1 and inbuilt MPEG-2 hardware decoding.

ABIT has bundled the Radeon 9250-ADT with CyberLink PowerDVD 5.0 and an S-Video-to-RCA converter cable, and its implementation will fit into a standard desktop chassis, but not a small form factor case. Cooling is provided by a large heatsink.

The card was tested using 3DMark2001 SE, plus Halo and Doom 3 timedemos set to 1,024 x 768, low detail and no filtering for some real-life gaming feedback. The test platform was a 3GHz Pentium 4 with 1GB PC3200 RAM and an Intel 865G/ICH5 motherboard. The latest ATI Catalyst drivers (version 4.12) were also used.

Looking at the benchmarks, it's clear that this card offers little in the way of performance, scoring 5,312 in 3DMark2001 SE, with gaming at unplayable framerates of 13.37fps (Halo) and 7.2fps (Doom 3).

This is mainly due to the limits of the legacy core technology. The 9200 series was obsolete well over 18 months ago, and the 9250 represents a bid to squeeze the last out of this graphics engine. It simply can't process the volume of pixels required by today's high-detail games, even at low resolutions with visual filters disabled. The card does support ATI's filtering technologies — Charisma Engine II, HyperZ II, SmartShader and SmoothVision — but is incapable of utilising them without serious performance lags.

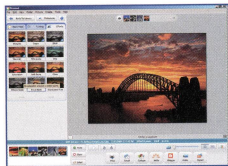
The 9250-ADT comes into its own in a low-power PC without an onboard video adaptor. With its ability to drive multiple displays and support legacy games with minimal 3D requirements, it might be a viable upgrade from very old systems like TNT2 or RAGE. It's better suited to a system producing only 2D outputs with single or multiple monitors, or even a Media Center-based machine, given the outputs and software bundle. Beyond this, don't bother.

James Bannan

Details

Contact	Altech Computers
Phone	(02) 9735 5655
Online	www.altech.com.au
Price	\$83
Intended market	Everyone
✓ Cheap 2D/multi-screen option.	
✗ Poor 3D performance.	
Verdict	★★★★☆

Google Picasa 2



Google's free photo software is back and ready to burn.

Google's mastery of viral marketing reaches new heights with this second version of Picasa. The program remains unique in appearance and solid in features, but what's most interesting is the way it hooks into related services and attempts to spread itself. For instance, Picasa's new disc-burning features can use a CD or DVD for backup and CDs for making

"gifts". Gift CDs are designed to be given away and include a selection of pictures, a movie slideshow and (surprise!) a copy of Picasa 2. The slideshow and self-copying features can be switched off.

As with the previous version, Picasa 2 allows photographs to be shared over the Hello (www.hello.com) network. Hello also uploads pictures to Blogger (www.blogger.com), taking some of the pain out of photo publishing. The Google integration doesn't end there, either: Froogle searches for cheap printer ink and accessories (from US suppliers, mostly), and photos can be sent via Gmail as well as regular email.

Picasa arranges pictures into folders that loosely mirror their on-disk location and can also make collections of photo shortcuts called Labels. Keywords can be used to tag images, although captions are now the preferred method of description. Keywords and captions are both searchable and embedded for portability.

Once pictures are in the Picasa database, a variety of editing tools can be used to correct red-eye, straighten wonky camera work, fix colour and so on, while an "I'm Feeling Lucky" button does a one-click fix. Tuning controls and 12 effects further enhance images — all with instant preview. Picasa 2's ability to print a variety of layouts and weed out low-res images is also impressive.

Picasa 2 does have some problems. The UI has inconsistencies — drag-and-drop works in some places but not others, and grouped functions often work in totally different ways. The program struggles to shoehorn folder hierarchies into its flat list of collections, and during testing it was occasionally difficult to get new images recognised.

That said, Picasa 2 is a creative powerhouse. It's free too — always a bonus — but be prepared to get sucked into Google's ever-expanding universe.

David Emberton

Details

Contact	Google
Online	www.picasa.com
Price	Free
Intended market	Everyone
✓ Disc burning; more editing tools.	
✗ Some interface and import quirks.	
Verdict	★★★★☆

Apple Mac OS X 10.4 "Tiger" preview

Apple's new version of OS X is all about getting things done efficiently.

Both Apple and Microsoft have spent a lot of time over the last few years trying to make their respective operating systems more user friendly. And Apple's engineers have gone into overdrive for Tiger.

This latest release of OS X introduces a system-wide search technology, Spotlight, to help users organise digital media files. Like Google Desktop, Spotlight maintains an index of the contents of the hard drive and provides instant search results.

Spotlight is also used in the upgraded Mail application to provide "smart folders", which instantly show a list of messages based on user-definable criteria. Mail features some excellent interface improvements, including one-click slideshows of photos attached to email and easy transfer of attachments into iPhoto libraries.

Any Tiger-optimised application that works with images or video can now access a large range of built-in visual processing filters. The technology, Core Image, is designed to be used by photo and video editing applications, allowing filters and transformations to be rendered live, in real time.

A QuickTime update offers full H.264/AVC codec compatibility — the MPEG-4 variant which will be supported by both Blu-Ray and HD-DVD. However, people who need QuickTime Pro features need to buy a licence (the version 6 key is \$59.) The same codec also brings multiple-person video chat to iChat AV, which is now much clearer and uses less bandwidth.

There's also a major upgrade to Apple's excellent Web browser, Safari, adding RSS support and a rewritten JavaScript core for faster and more compatible page rendering.

Apple's iSync tool, which allows information like calendar, contacts, browser bookmarks and so on to be synchronised between PDAs, phones and other Macs, is integrated on a system level. However, Mac-to-Mac synchronisation still requires a subscription to the .Mac online service, which costs \$158 per year. Automator (the new point-and-click system scripting language) complements AppleScript and allows users to create macros to automate system and application tasks.

OS X 10.4 isn't as dramatic an upgrade as 10.3, and if it costs as much (\$229), users will have to weigh up the value of its new features.

Don Warne



Highly Recommended
April 2005
Apple

Details

Contact	Apple
Phone	13 36 22
Online	www.apple.com.au
Price	TBA
Intended market	Everyone
✓	Instant search; multi-person video chat that works.
✗	Some features require annual fees.
Verdict	★★★★☆

Every cable has a speed limit. See your cables' limits with CableIQ.



Introducing CableIQ™ Qualification Tester – the first cabling bandwidth tester for network techs. CableIQ's unique vision into cabling bandwidth shows you if a cabling link can support 10/100, VoIP, or Gigabit Ethernet. And if it can't support the required bandwidth, CableIQ's advanced diagnostics indicate why. It also answers network connectivity questions. Is the port active? Are the duplex settings matched? Is the cable connected to a PC, phone or switch? All to help you close trouble tickets up to 30% faster and ensure seamless upgrades to higher network speeds.

Go to www.flukenetworks.com/seeCableIQ for a virtual test drive and enter to win a free CableIQ Advanced IT Kit.

FLUKE
networks

©2005 Fluke Corporation. All rights reserved.
Fluke Australia Pty Ltd. Phone: (02) 8850 3333
Fax: (02) 8850 3300 Email: sales@fluke.com.au

NETWORK SUPERVISION™

Samsung 913N TFT monitor



The first sub-8ms 19in TFT panel on the market sets new standards.

Multimedia plays a substantial role in our lives. In an office environment, video-based training is becoming more popular, while Web sites and even the APC cover DVD are packed full of motion graphics and video, placing a hefty demand on screen performance. Samsung is the first to market with a sub-8ms 19in TFT panel, and it's a stunner.

The 913N runs at a native resolution of 1,280 x 1,024 pixels, with a quoted contrast ratio of 800:1 and a 300cd/m² brightness rating, but it's the pixel response time that's really noteworthy. The human eye can detect movement down to around 6ms, so a response time of 8ms means scene changes are virtually undetectable — no more blurred motion in DVD playback, gaming or flash movies. Another trait of early LCDs was a narrow viewing angle, but the Samsung is visible through 160°.

The screen features a narrow bezel, so those looking to drive multiple screens will be pleased. A subtle row of buttons runs along the bottom-right corner, adding to the unit's clean lines.

Under tests with DisplayMate and the Nokia

Monitor Test tools, the 913N showed excellent detail, clear gradients and no visible signs of moiré. Colour balance was also good. In an office environment, however, there was some difficulty in discerning pale shades. For instance, Hotmail highlights new email by shading the message header beige while read emails are white, and it was hard to discern between the two shades.

It also took some fiddling with the colour settings to accurately configure the screen. Thankfully, Samsung ships a software configuration tool called MagicTune which, along with the hardware adjustments found on the screen itself, helps make it straightforward to tweak screen attributes. The screen also features MagicBright, which allows the user to quickly adjust the settings to suit to different types of images.

While our review model's stand couldn't be adjusted, the retail version is set to have a height-adjustable base that also allows pivoting to portrait mode. Likewise, while the review unit only featured VGA input, Samsung is considering a model with a DVI connector. A three-year, next-day replacement warranty rounds out an excellent package.

Matthew Overington

Details

Contact	Samsung
Phone	1300 369 600
Online	www.samsung.com.au
Price	\$999
Intended market	Prosumers
✓	Fast pixel response; good colour; good warranty.
✗	No DVI.
Verdict	★★★★★

Acer TravelMate 382TCi

Outstanding battery life gives Acer's newest sub-2kg notebook a boost.

Acer's latest business-ready ultraportable features a 1.6GHz Pentium M processor, 512MB of DDR RAM and a 40GB hard disk. The chassis measures a mere 27 x 23 x 3.6cm and weighs 1.6kg. While it's not the lightest ultraportable unit on the market, it's still on the sunnier side of the 2kg barrier.

The 382TCi is well appointed, sporting VGA-out, Ethernet, modem, IR, headphone and microphone ports, plus support for an Acer EasyPort III port replicator (\$249.70). A hardware switch enables the user to disable the Bluetooth or 802.11b/g wireless LAN access: a handy security feature.

On the downside, there are only two USB 2.0 ports, though the port replicator is recommended if you're going to use the machine at a desk. A full-size FireWire connector is located on the chassis, providing enough juice to power an external CD-RW /DVD combo drive (bundled with the notebook).

A solid software bundle is supplied, including NTI's CD & DVD-Maker Gold 6.7 and Backup NOW! 3, CyberLink Power2Go 5 and Windows XP Home (an upgrade to XP Professional is an additional \$199.10). The 12.1in screen runs at a native resolution of 1,024

x 768 pixels, and is driven by the 855 chipset. Not surprisingly, this leads to relatively poor game benchmarks (1,701 under 3DMark2001 SE Pro), though the system is fine for DVD playback.

One increasingly popular design element on notebooks is an elliptical track pad. While it initially seems odd for controlling a cursor on a rectangular screen, it doesn't pose a problem for navigation and is harder to accidentally brush while typing. The keyboard itself is surprisingly comfortable.

The TravelMate managed 20.4 under Multimedia Content Creation Winstone 2004 and 20 flat using the Business variant. This confirms the 382TCi as one of the more capable ultraportable notebooks around, with reasonable performance benchmarks and a stellar battery rundown time of four hours and 30 minutes under BatteryMark 4.0.1.

A three-year, return-to-base warranty is included, during which time Acer claims to honour a two hour Commitment Express Warranty Service — another factor that makes the TravelMate a good choice for busy executives. Corporate users will undoubtedly want to spec Windows XP Professional, but that's a bearable sub-\$200 upgrade. It's just a shame the machine doesn't feature more USB ports.

Matthew Overington



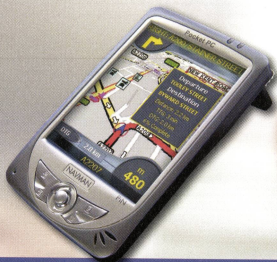
Details

Contact	Acer
Phone	1300 366 567
Online	www.acer.com.au
Price	\$2,799
Intended market	Business
✓	Lightweight; great battery life.
✗	Not enough USB ports.
Verdict	★★★★★

NAVMAN

Introducing the PiN V3

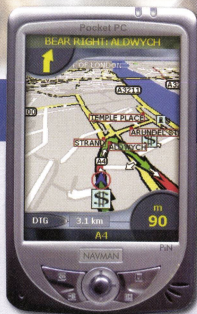
Portable and Transferable in Car Navigation



SmartST™ V3

Key Features and Benefits

- 65,000 colour transfective 3.5" **TOUCH SCREEN**
- 2004 Street Level mapping for the whole of Australia
- Portable and Transferable in Car Navigation
- Trip planning – allows for multiple stops between departure and destination addresses
- 128 MB Multimedia card preloaded with maps
- Provides full Windows Mobile 2003 functionality
- 3D voice-guided navigation
- Built in Li-Ion battery for hand held usage
- Back-on-Track™ route re-calculation
- Integrated GPS receiver



Powered by



Available at



and many other selected retailers

For more information, contact:

Navman Australia Pty Ltd

Phone: (02) 9879-9000

www.navman.com

email: pcnsales.aus@navman.com

Infinite Group C240-64 Workstation



Details

Contact	Infinite Group
Phone	1300 882 315
Online	www.infinite.com.au
Price	\$2,199
Intended market	Business
✓	Quiet; stable; responsive.
✗	No provision for dual display.
Verdict	★★★★☆

This small box builder shows that wise selection of parts is the key to a solid system.

The Infinite Group prides itself on building custom PCs for high-end users. The C240-64 is built around an IGP motherboard, AMD Athlon 64 3000+ processor, 512MB DDR RAM and 80GB SATA Seagate Barracuda hard disk, enclosed in a glossy Antec case. The system is finished in black and silver, with FireWire, two USB 2.0, headphone and mic ports on the front panel.

Close attention has been paid to the parts spec, with Infinite opting for brand-name components. The system sports a Sony DVD-RW DW-D22A multifunction DVD writer, along with a floppy drive, Philips 170S 17in TFT monitor and Microsoft Wireless Comfort keyboard and mouse combo. A two-year RTB warranty is included, along with Windows XP Professional. In fact, the only concession made is a VIA/S3C UniChrome Pro IGP video adaptor instead of a dedicated video card. The only potential problem with this option is an inability to run two monitors simultaneously, which is often a consideration in a workstation environment.

The system performed well under benchmarking

— although the PCMark04 score was quite low at 2,911, the CPU component was 3,666 and the memory achieved 2,984. The only point that brought the system down was the low graphics mark of 564. These are backed up by 21.7 and 28.4 under Business Winstone 2004 and Multimedia Content Creation Winstone 2004 respectively. An abysmal 1,766 under 3DMark2001 SE confirms that the UniChrome Pro IGP adaptor isn't up to snuff for modern gaming.

Apart from video performance, the system scores reasonable benchmarks and is quick where it counts. The 64-bit processor chews through complex processing and the entire system makes very little noise: in fact, it's just about the quietest Athlon 64-based machine seen, or rather heard, in the APC's Labs.

This offering stacks up well for its intended market, where stability, solid build and low noise are more important than blistering video performance. Some workstation users might prefer to drop a high-end 2D video card such as ATI's FireGL or an Nvidia Quadro into the box, but the C240-64 is a screamer when it comes to productivity apps.

Matthew Overington

PalmOne Treo 650 smartphone



Details

Contact	PalmOne
Phone	(02) 9844 5420
Online	www.palmone.com/au
Price	\$1,199
Intended market	Business
✓	Bluetooth; good screen; POP/IMAP support.
✗	File storage less efficient.
Verdict	★★★★☆

PalmOne's second attempt at a converged device offers a host of smart improvements.

This is shaping up as the year of the smartphone. HP, iMate and Blackberry all have new models out, and PalmOne is back with a stellar follow-up to the Treo 600. The release of the Treo 650 comes a year after its predecessor, an age in an industry which tends to refresh product every three to six months.

Built around Intel's PXA270 processor, the Treo 650 runs at 312MHz and has 22MB of non-volatile memory. The move to non-volatile RAM has also meant a new file storage system, NVFS. This is slightly less efficient than the DRAM in the Treo 600, and files stored on the new model actually require 33% more space, so users upgrading from a 600 may not be able to fit all the data on the new model. The quad-band device boasts a 300-hour standby time (6 hours' talk) and can accommodate a removable battery (\$70), allowing heavy users to carry a spare.

The Treo 650 is well configured, with an MMC/SD/SDIO slot at the top, next to an IR port, antenna, SIM slot and physical ring switch. A slightly curved keyboard makes it relatively easy to type on, though larger fingers will still struggle. One of the major letdowns of the first release of the Treo was the lack

of Bluetooth support. This has been rectified, opening up the device's connectivity options.

Palm is offering the Treo 650 as a true multimedia device with a VGA resolution camera and 320 x 320 pixel backlit TFT display which remains clear and bright, even during outdoor operation. It runs on Palm OS 5.4 and features a solid suite of software including RealPlayer, VersaMail, a camcorder and an organiser that's able to sync directly with Microsoft Outlook. Software is bundled for syncing under Windows 2000 and XP, and Mac OS 10.2 and 10.3 — but earlier Mac and Linux users are left out in the cold. However, the Palm OS is extremely popular and there are plenty of third-party applications available.

One of the best features of the 650 is that it can now communicate directly with an Exchange server to send and receive email on the road. Full POP/IMAP support is also included.

At 180g, the Treo 650, while considerably heavier than most mobile phones, isn't as bulky as the first generation of converged devices and fits in the pocket comfortably. The integration with corporate email and inclusion of a removable battery and Bluetooth support has built on the already solid foundations set by the Treo 600.

Matthew Overington

Transcend

Your Supplier, Your Partner,
Your Friend.

Flash Your Digital World

JetFlash 110

Transcend JetFlash 110 new high-speed USB2.0 JetFlash series have high quality outlook and sliding USB port design. It is not only easy to carry and more flexible to use with USB peripheral devices, but also an ultimate data storage device that can bring users the worry-free data storage and transfer experience.

Capacity: 128MB, 256MB, 512MB, 1GB, 2GB

JetFlash 110, 2A, 2B



TS2GJF2A

TS2GJF110
TS2GJF2B

Transcend's USB2.0 high speed JetFlash is easy to carry and flexible to use with USB peripheral devices. It's an ultimate data storage device.

JetFlashM & JetFlash MP3



TS256MFLASHM

TS1GJF-MP3

Combines a high speed USB2.0 Flash Drive with MP3 Player, AB repeater, Voice recorder and FM radio functions. It is a great companion for your digital life.

DDR2



TS128MLG64VJ9

DDR2 is the technology that enables the DDR2 SDRAM chip to run 2 times faster than DDR SDRAM in bandwidth. Including several new features in DDR2 fulfills the speed and bandwidth improvements.

Digital Album



TS25SP20G

It just palm-sized that can store all your photos and display in the built-in 2.5" high resolution color LCD panel or show on TV via the video-out port.

CF, miniSD, SD60, RS-MMC, MMC



TS4GCF45

TS512MSDM

TS1GSD60

TS512RMMC

TS1GMMC

Transcend's digital card series have the best compatibility and performance with your portable devices. It is easy to transfer data and carry everywhere.

StoreJet™ 1.8" Portable Hard Disk



TS40GSJ18

Transcend StoreJet 1.8" has more than enough capacity for your data storage needs. StoreJet now includes the StoreJet Software Pack; Mobile Outlook Express functions allow you to carry your email anywhere you want.

Transcend Information, Inc.

www.transcendusa.com

*All brand names are the registered trademarks of their respective owners. Specifications subject to change without notice.

Hit the shops

Stay on top of product releases with APC's monthly run-down of the best of the best.

Welcome to APC's ongoing collection of best-of-breed hardware and software components. The first new addition this month is Konica Minolta's magicolor 2400W. This small colour laser printer raises the bar for quality, and better yet, it retails for \$799. At this price, there's little reason to stick with ink. Dell's new Sonoma-based Inspiron 9300 notebook takes the mantle for the best large portable, and the Treo 650 smartphone from PalmOne gets the gong as the top handheld device.

In the interest of keeping Best Buys fresh each month, we've decided to regularly rotate the software categories. This month sees the inclusion of a whole new set of software, covering utilities that should be part of every power user's quiver: desktop search, RSS readers and anti-spyware applications.

Each state or territory has its own legislation designed to prevent consumers being mistreated by vendors or retailers, but the national *Trade Practices Act 1974* offers protection across a range of areas. It provides guidelines for warranties and sets standards for "merchantable" quality goods. It also offers protection against misleading conduct on the part of retailers. The Federal Government's online consumer portal can be found at www.consumeronline.gov.au.

The Australian Competition and Consumer Commission (ACCC) also offers protection to purchasers in a number of areas. It can be contacted at www.accc.gov.au.

Processor/motherboard

MSI K8T Neo-FIS2R/ AMD Athlon FX-55



The AMD Athlon FX-55 is the current performance king. It features Enhanced Virus Protection and Cool'n'Quiet technology designed to keep it running as soundlessly as possible, throttling up performance as required. AMD has led the workstation market since the release of the first Athlon 64s, and the launch of the Athlon 64 4000+ helps maintain that position. Combined with a MSI K8T Neo-FIS2R motherboard and ample RAM, you've got one heck of a system. Throw in a 6800 GT or Ultra video card and you're laughing.

Details

Contact	MSI
Phone	(02) 9748 0070
Online	www.msicomputer.com.au

Price Processor, approx \$1,400; motherboard, \$300

ASUS A7N8X/AMD Sempron 2600+

AMD's entry-level Sempron processors offer a 333MHz frontside bus and 256KB of Level 2 cache. Enhanced

Virus Protection is built in and enabled by Windows XP. Combine the chip with an ASUS A7N motherboard for a powerful, low-cost base platform.

Details

Contact	Achieva
Phone	(02) 9742 3288
Online	www.achieve.com.au
Price	\$285

Desktop systems

Dell Precision 370



The Precision 370 will suit engineers, digital artists and anyone who uses CAD. It features Intel's 64-bit Extended Memory Technology (EM64T) and is based on the Intel 925X chipset with 2GB of Samsung DDR-533 memory in four 512MB modules, a Seagate Barracuda 7200.7 80GB Serial ATA hard disk and a GRA-4120B DVD+RW drive. The Nvidia Quadro 128MB FX1300 video card works seamlessly with the system and provides two DVI outputs. The three-year warranty and XP Professional licence are ideal for business users.

Details

Contact	Dell
Phone	1300 303 107
Online	www.dell.com.au
Price	\$4,161

TI AMD Deluxe 999

The AMD Deluxe 999 is based on an Athlon 64 3000+ processor, ATI Radeon 9550 and 120GB Seagate Barracuda hard disk. There's only 512MB of RAM, but it offers fantastic performance. You'll need to factor a monitor, keyboard and mouse into the budget, though.

Details

Contact	TI Computers
Phone	(02) 9437 5437
Online	www.ticomputers.com.au
Price	\$999

Notebooks

Dell Inspiron 9300



The follow-up to Dell's hulking Inspiron 9200 wide-screen notebook is a winner. It was the first Sonoma-based notebook through APC's Labs and impresses with its blend of power, screen space and battery life. The Sonoma chipset brings PCI Express to portables, along with 7.1-channel audio and support for Serial ATA hard disks. Better still, it's super power-efficient. The Inspiron 9300 sports a 17in screen, 2.1GHz Pentium M processor, 1GB of RAM, 80GB hard drive, Double Layer multifunction 8x DVD writer, 256MB Nvidia GeForce FX 6800 Go PCI-Express video card and built-in 802.11a/b/g Wi-Fi networking.

Details

Contact	Dell
Phone	1300 303 107
Online	www.dell.com.au
Price	\$3,899

Acer Aspire 1690

The Acer Aspire 1690 features a 1.6GHz Pentium M processor, a 15in wide-screen display running at 1,280 x 800 pixels, Double Layer DVD±RW drive and 60GB hard disk. The base RAM is meagre at 256MB, but you can always add more. At around 3kg, this machine doesn't feel like dead weight.

Details

Contact	Acer
Phone	www.acer.com.au
Online	1300 366 567
Price	\$2,699

Digital cameras

Nikon D70



The 600g Nikon D70 offers a 6.1 megapixel CCD and 0.13 second shutter response time.

It features a Nikkor F mount which accepts a wide range of Nikon lenses, including regular G or D AF-type SLR lenses. The 18–70mm lens bundled with the camera offers aperture ranges from f/3.5 to f/4.5. The camera resembles an SLR and offers the same range of settings. Users have a choice of fully automatic or a range of scene modes. Bracketing and a selection of shooting modes are supported, including single frame, 3fps and a self-timer.

Details

Contact	Maxwell
Phone	(02) 8748 5200
Online	www.maxwell.com.au
Price	Body, \$1,999; D70/AF-S with 18–70mm DX lens, \$2,299

Olympus Camedia C-5060

The 5.1 megapixel C-5060 is hard to go past. The Camedia's 27–110mm 4x zoom lens offers a wide-angle and a super macro mode, and it's reasonably fast with an f/2.8 to f/4.8 aperture. A variety of shot, meter, focus, white balance, exposure and image file modes are also available.

Details

Contact	Olympus
Phone	1300 659 678
Online	www.olympus.com.au
Price	\$1,099

ADSL modem/routers

DrayTek Vigor2600G



One of the most feature-rich ADSL modem routers on the market, the Vigor2600G is primed for business. The device supports up to 16 simultaneous PPTP, IPSec and L2TP VPN connections using DES, 3DES or AES encryption schemes, making it compatible with most enterprise firewalls. SNMP support is also included, along with Dynamic DNS, DMZ, VLAN, RADIUS support, SSID hiding, 128-bit WEP and WPA support.

Rounding out the feature pool is 54MB Wi-Fi, making the DrayTek modem router a complete solution for getting your wireless, Internet-enabled home network up and running securely.



Details

Contact	DrayTek Australia
Phone	1800 617 711
Online	www.draytek.com.au
Price	\$349

Belkin F5D7630au4A

The F5D7630au4A is one of the best value all-in-one routers available today. Superb out-of-the-box functionality, SSID hiding, WPA-PSK and 128-bit WEP wireless security features are all offered. Sadly, there's no print server capability or line filter in the retail box.

Details

Contact	Belkin
Phone	1800 666 040
Online	www.belkin.com/au
Price	\$300

TFT screens

Samsung SyncMaster 913N



Samsung's latest 19in TFT panel resets the standard for computer displays. The svelte unit boasts an 8ms pixel response time, currently the fastest on the market, and runs at a native resolution of 1,280 x 1,024 pixels. DisplayMate testing shows excellent contrast, brightness and colour balance, and the automatic adjustment feature works well.

The SyncMaster is the ultimate monitor for all-round use, being equally well suited to gaming, watching DVDs or mundane office duties. A comprehensive range of options for inputs and an excellent dead pixel policy help make Samsung the premier supplier of TFT panels in Australia.

Details

Contact	Samsung
Phone	1300 369 600
Online	www.samsung.com.au
Price	\$999

Gigabyte GD-1903DP

Gigabyte's 19in TFT is simple yet attractive and its performance is outstanding, especially in the area of tone differentiation. There are small built-in speakers and a range of connections, while the 25ms response rate makes the Gigabyte ideal for most office uses.

Details

Contact	Rectron
Phone	(02) 9748 7725
Online	www.rectron.com.au
Price	\$599

Handhelds

PalmOne Treo 650 smartphone



PalmOne's 180g Treo 650 is a stellar follow-up to the Treo 600. It can now communicate directly with an Exchange server to send and receive email on the road, and POP/IMAP integration is also included. Palm OS 5.4 drives a VGA resolution camera and 320 x 320 pixel backlit TFT display that remains clear and bright during outdoor operation.

Non-volatile RAM means that the device can retain data after powering down, though it comes at the cost of some storage space. A few stylistic changes, like a curved keyboard and Bluetooth support, also bolster the 650 as a worthy upgrade from its predecessor.

Details

Contact	PalmOne
Phone	(02) 9844 5420
Online	www.palmone.com/au
Price	\$1,199

Dell Axim X30 Basic

Designed for the first-time or light PDA user, the X30 Basic is good value. The Intel XScale 312MHz processor is adequate, while the 32MB of user-accessible memory is plenty for PIM use and a few apps. The SDI/O slot can be used to add Wi-Fi, Bluetooth or more storage.

Details

Contact	Dell
Phone	www.dell.com.au
Online	1300 303 107
Price	\$399

External hard disks

Maxtor OneTouch II USB



Editor's Choice
apc

Quite simply, a PC can never have enough storage, so adding an external drive is the perfect way to increase capacity or facilitate the transfer of huge files. Maxtor's OneTouch USB impresses with its supplied backup software which can copy precious data to the drive with a single press of a button. Performance is stunning, and the drive is available in capacities up to 300GB.

The Maxtor is solidly built for a portable device, so little accidents shouldn't cause problems. And if you require more than one, the cleverly inverted patterns on the drive's top and bottom let you stack them safely.

Details

Contact	Maxtor
Phone	(02) 9369 3662
Online	www.maxtor.com
Price	300GB, \$449

Seagate 5GB Pocket Drive

apc Sometimes portability outweighs the convenience of having hundreds of gigabytes of storage space in an external drive.

Advances in miniature hard disks have led to Seagate's impressive 5GB Pocket Drive. The entire USB 2.0 unit measures 7cm in diameter so you can take it almost anywhere.

Details

Contact	Ingram Micro
Phone	(02) 9701 4500
Online	www.seagate-asia.com
Price	\$349

Internal hard disks

Seagate Barracuda 7200.7



Editor's Choice
apc

One of the changes the new PC chipsets, including Intel's 9xx range and Nvidia's nForce 4, bring to the table is support for Serial ATA Native Command Queuing. This allows controllers and drives to group read requests to optimise how data is read from the drive.

Seagate's new Barracuda 7200.7 drives support this feature, leading to impressive performance boosts when used with current-generation motherboards. Just throw a couple into a modern machine for a seriously quick (and relatively inexpensive) disk system. Though it may sound like overkill to run a RAID array in a home PC, the low cost of these drives means server-level disk performance is now within everyone's reach.

Details

Contact	Seagate
Phone	(02) 9748 7430
Online	www.seagate-asia.com
Price	160GB, \$175; 200GB, \$200

Western Digital WD1600JB

apc If you're lagging behind and haven't opted for a system with support for Serial ATA drives yet, the best bet for adding extra storage to your machine is a Western Digital IDE drive. The JB line includes an 8MB cache, which speeds burst transfers of data, backed by a three-year warranty.

Details

Contact	Western
Phone	(03) 9541 8888
Online	www.western.com.au
Price	160GB, \$189

Optical drives

Sony DRU720A



The DRU720A from Sony is the new speed king in the APC Labs, capable of burning DVD+R media at 16x, DVD-Rs at 12x and Double Layer disks at 4x. Beating the previous incumbent, the Pioneer DVR-A08XL drive, by a full minute, the DRU710A burned a test disk in five minutes and 47 seconds. CD-R writing is supported at 48x, writing a full disk in two minutes and 53 seconds, and CD-RW at 24x.

The small size means those with tight-fitting cases will have more room. Bundled with Nero 6 OEM, a replacement black face plate and an IDE cable, the DRU720A is both fast and well appointed, making it ideal for backups.

Details

Contact	Sony
Phone	1300 138 246
Online	www.sony.com.au
Price	\$179

Samsung TS-H492A

apc The CD-RW is still a hot commodity at the budget end of the market. The TS-H492A combines a 52x CD-R, 32x CD-RW drive with a 16x DVD-ROM for "best of both worlds" performance. It also has Ahead's Nero 6.0 for burning CDs and CyberLink's PowerDVD 6.0 for watching movies.

Details

Contact	Samsung
Phone	1300 369 600
Online	www.samsung.com.au
Price	\$99

Printers

Konica Minolta magicolor 2400W



Editor's Choice
apc

Konica Minolta's new magicolor 2400W is currently pegged as the smallest 4-pass colour laser printer on the market.

With a rated speed of 5ppm for colour and 20ppm for monochrome prints and a duty cycle of 35,000 pages per month, it's ideal for any small business.

Though the output quality isn't going to win any awards next to more expensive models, the low cost of operation and price tag are compelling, especially where one eye is always on the bottom line. That said, the 2400 x 600dpi device is capable of outputting colour photos and is ideal for high-volume home printing — perfect for a family with school-age kids. This is a great all-round personal laser printer.

Details

Contact	Konica Minolta
Phone	1800 265 687
Online	www.printer-konicaminolta.com.au
Price	\$799

Canon Laser Shot LBP 3200

apc If you're after a high-quality, inexpensive personal laser printer for a Windows machine, it's hard to go past Canon's Laser Shot LBP 3200. The unit can handle a 20-page document in 85 seconds. While it's not the cheapest to run, the low purchase price puts it ahead of the competition.

Details

Contact	Canon
Phone	1800 021 167
Online	www.canon.com.au
Price	\$349

Video cards

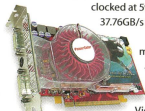
PowerColor Radeon X850 XT PE



PowerColor's Radeon X850 XT Platinum Edition features 16 pixel pipelines and six programmable vertex shader pipelines, a 540MHz core clock, with 256MB of GDDR3 RAM clocked at 590MHz. This adds up to a throughput of 37.76GB/s and a fill rate of 8.64 gigapixels per second.

The card is manufactured on a 0.13 micron process and features full DirectX 9.0 and OpenGL 2.0 support, integrating ATI's proprietary SmartShader HD, SmoothVision HD, Hyper Z HD, and VideoShader HD technologies. It also ships with a comprehensive software bundle of useful utilities.

With specs like these, expect this card to survive the next wave of game releases.



Details

Contact Australia IT
Phone 1300 668 715
Online www.australiat.com.au
Price \$945

ABIT Radeon X300 SE-Guru



In this case, the budget price tag doesn't mean low value.

Besides its top performance, ABIT's card stands head and shoulders above the rest of the cards in the X300 range thanks to the inclusion of the company's proprietary vGuru overclocking technology.

Details

Contact Altech
Phone (02) 9735 5655
Online www.altech.com.au
Price \$154

RSS readers

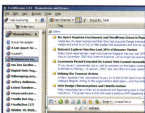
FeedDemon 1.11



FeedDemon simplifies the way you receive and read news directly from the Internet. Like most RSS readers, it works by checking subscription feeds on a periodic basis and displaying any new items. The special organisational features such as keyword watches, news bins and a "newspaper" view for showing unread items together are an excellent inclusion.

The FeedDemon reader was created by Nick Bradbury — also responsible for writing the HomeSite Web editor.

FeedDemon can read both RSS and Atom formats and comes with a good list of subscriptions already built in. New channels can be added individually or in groups from an OPML file.



Details

Contact Bradbury Software
Online www.feeddemo.com
Price US\$29.95

Awasu 2.1



Now that many popular sites publish headlines in RSS format, a good reader is a must. Awasu is free and includes all the features needed to keep track of what's new. The software has a unique "modules" feature that allows for custom data sources and formats to be tracked. RSS and Atom formats are both supported.

Details

Contact Awasu
Online www.awasu.com
Price Free

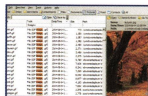
Desktop search

X1 Desktop Search v5



The latest version of X1 Desktop Search is perfect for the information junkie. It indexes local and network drives,

Exchange servers, and a variety of email archives including Outlook and Eudora Mail. X1 also reads compressed folders, so you can make a complete search of email attachments, and preview over 225



file formats. Searches can be simple or complex, and are performed as you type.

A stripped-down version of this product also powers the formidable Yahoo! Desktop Search Beta. Unfortunately, X1 v5 was released too late to be included our Desktop Search Beta Challenge, but its interface and features easily earn it Editor's Choice.

Details

Contact X1 Technologies
Online www.x1.com
Price US\$74.95

Copernic Desktop Search 1.2



Desktop Search scans and indexes the hard drive and mail messages, browser history and bookmarks. Email, Web pages and Word documents are shown in a preview window, although media files must be opened externally. The indexer works in the background and a Desktop search field provides quick access.

Details

Contact Copernic Technologies
Online www.copernic.com
Price Free

Anti-spyware

Ad-Aware Plus SE



It only takes a few minutes for Windows PCs to become infected by spyware, adware and other aggressive programs.

Ad-Aware scans the registry, disk drives and memory for anything that might be a potential problem, then gathers information about any flagged file to help make a threat assessment prior to removal. As well as zapping spyware programs, Ad-Aware will also maintain a blacklist for preventing pop-up browser windows.

Ad-Aware is available in a free Personal edition, but the Plus version includes a variety of extra features such as real-time scanning, system protection, detailed logs and additional command line options.



Details

Contact Biz-Aid
Phone (03) 9526 6977
Online www.lavasoft.com.au
Price \$40.50

Spybot-Search & Destroy 1.3



Spybot-S&D is a freeware tool that scans for ad- and spyware and immunises a system against new threats. It also includes SDHelper for protecting IE from malicious exploits, and TeaTimer for locking down system settings. An entire system scan is complete in just a few minutes, and definition updates can be done at any time.

Details

Contact Safer Network Limited
Online www.spybot.info
Price Free



Desktop Linux shootout

How do major Linux distros stack up for business and enthusiasts?

Anton Tomazin and Caroline Leming road test eight contenders.

It used to be only the very determined who put Linux through its paces on a business or home system. But times have changed, and while Linux maintains its outsider status on the desktop (even Novell's CEO says desktop Linux isn't a "wholesale replacement" of Windows), there's no denying that the OS is shaping up as a more worthy contender for serious desktop computing than it did in the past.

Sure, the installation routines might have a few quirks compared with Windows, but when it comes to key features like updating, support and configuration and management tools, things have improved. If your last look at Linux was several years ago, it might be time to revisit the penguin.

We've taken eight flavours of Linux and split them into two categories, with four of the major business distros in one and four for technical enthusiasts (developers who need a home system, those who want to dabble in open source, or just try out the software) in the other. These two categories were compared separately.

Each of the distros was judged on its broad appeal. This included applications, hardware support, admin and configuration features, along with crossover appeal for Windows users. The latter focused on ease of installation, bundled software and interface. The winning distros best balanced features for power users with crossover appeal.

AT WORK



It's common for major business distributions to go for safer components which have been thoroughly tried and tested, although this roundup shows that real world performance can't always be predicted.

Novell Linux Desktop 9 uses a relatively recent Linux kernel, for instance, yet in testing it fared better in terms of stability than some of the distributions with older components. Other vendors, such as Red Hat, have channelled the energy of developers into tweaking the core components of Linux as a means of improving performance.

Support is another big factor. Red Hat, Sun and Novell have invested money in worldwide support networks, a key consideration for businesses contemplating major rollouts.

AT HOME



In the past, Linux users had to be prepared to tweak and rebuild their chosen operating system. While there are still distros which require a more thorough knowledge of Linux to use effectively, we've looked to see which distributions have broad appeal to both power users and potential Linux enthusiasts coming from the Windows world.

Having a cutting edge distro can have its advantages, including enhancements that are still a long way from showing up in some commercial distros. Kernel 2.6 is more scalable and supports features such as USB 2.0, Bluetooth and Hyper-Threading.

How we tested

Each OS was examined on a single testbench system which had Windows XP Pro installed on one partition, an extra NTFS Windows partition and the following hardware installed: Intel Pentium 4 2.4GHz, 512MB RAM, 120GB 7,200rpm ATA133 hard disk, ATI Radeon 9800 XT display adaptor, Intel 82801BA/BAM AC '97 audio controller, Intel PRO/100 VE Network Controller, DVD drive and 24 x 12 x 32 CD-RW drive.

Each OS was installed on a separate partition alongside Windows to gauge how it handled a dual boot situation. A basic network was set up and general networking tasks such as file and print sharing were tested. Software update tools were used to update each distro where possible, but rather than list the thousands of packages that come with most distros, we've listed the highlights of the major apps for each package. For the business category, particular attention was paid to administration tools, stability and support.

Why buy Linux

The extra value in boxed versions of Linux varies, so it's worth investigating what your money actually buys.

FEATURES

Extra software is frequently included in retail distributions. The majority of the free distros reviewed here include OpenOffice, which is also free, while the Sun Java Desktop System comes bundled with StarOffice 7 Office Suite, normally a separate purchase. Commercially developed extras such as drivers and plug-ins can also be restricted to retail versions.



SUPPORT

All commercial business versions in this roundup include basic installation support, whether by phone, Web or email. Support can also include a year's worth of updates plus Web assistance. Where business distros come into their own is with optional support. Sun, for example, has a network of support centres in more than 30 countries offering everything from 24-hour technical support to training and certification.



EXTRAS

A 3.3GB download is not to be sniffed at. Buying the box means you get CDs or DVDs, plus printed manuals. Some vendors have also set up fee-paying "clubs" to encourage more people to look beyond free downloads. Mandrakeclub members get access to 60,000 apps, the knowledge base, forums and early access to new versions of Mandrakelinux.





Debian version 3

Debian is widely recognised as the power user's Linux distribution. It's best approached with care by newcomers, but experienced Linux users will enjoy the no-frills style and online community support. Debian also forms the basis of a lot of other distros, such as Xandros and Ubuntu.

Install Installation is strictly a text/menu affair, and it can involve some messing around. One of the more confusing things about the Debian installation process is the lack of a clear installation path with suggestions as where to go and what to select, not to mention the large number of installation options. Older Linux hands won't be fazed though. For the rest, take note that work is underway to make this process more user-friendly.

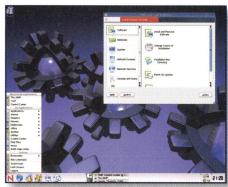
Due to the fact that driver support was lacking for our test machine, it took a little tinkering to get all hardware configured correctly. There are no tools here for partitioning your disk and you can't resize the Windows partitions. Debian also doesn't automatically mount Windows partitions.

Nuts and bolts There are seven CDs, with an enormous number of packages available for installation. At press time the Debian Web site said only "untested" DVD ISOs were available online,

which haven't been approved by the official Debian team. Major apps include KOffice, Mozilla, XMMs, Gaim and Evolution.

One of the strikes against Debian is the outdated versions it ships with. For example, it comes with aged KDE 2.2 and Gnome 1.4 desktop environments, and the 2.2.2 kernel, whereas all the other "enthusiast" distros in this roundup have the 2.6 kernel. Of course, you can always compile and install software from source.

Crossover appeal While Debian lacks some of the Windows-like visual slickness of the other distros, a highlight is the apt updating feature, which automatically sorts out requested packages along with dependencies (something also handled in Fedora). There's no GUI, but after a few initial configuration steps, a simple `apt-get update` was executed and it downloaded and installed all updates. Still, it was a let-down when our fresh install couldn't browse Windows network shares from the Gnome file browser, though there's no doubt Debian's online community would help in this case.



Details

Contact	Debian
Online	www.debian.org
Price	Free download
✓	Good online support; good package management.
✗	Outdated components; unfriendly to new Linux users; poor dual-boot options.
Verdict	★★★★☆



Fedora Core 3

The "Please file bugs" notice on Fedora's Web site that accompanies the release of this version screams out loud and clear that you're looking at an OS in progress. Fedora is a community project which also provides a testing ground for Red Hat's Enterprise family. Still, it's surprisingly stable.

Install Downloadable DVD ISO images are a nice touch here. This is something other distros like SUSE 9.2 and Mandrakelinux 10.1 are doing, and it would be nice if even more free distros followed suit. Fedora Core 3's Anaconda installation setup detected our test system's hardware without a hitch.

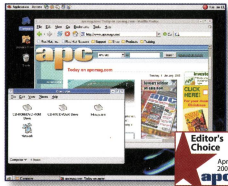
Like Windows, Fedora also chooses to lock down your system by default by enabling the SELinux security feature (this was disabled by default in Core 2 and only recommended for experienced users). However, unlike the SUSE-based distros, you couldn't resize the Windows partitions during installation, something Fedora's target enthusiast audience could find appealing.

Nuts and bolts Fedora uses the most up-to-date Linux kernel in this roundup, a heavily patched version of the 2.6.9 kernel — great if you use Linux regularly and want to try the latest and greatest package components. All of the usual favourites

are there, including OpenOffice, Gaim for instant messages, XMMs and HelixPlayer for multimedia, and Evolution for email. The inclusion of the Firefox Web browser is a nice touch.

One of the downfalls of this otherwise great distro is the lack of MP3 support. While Fedora includes XMMs and HelixPlayer, multimedia support is still a little lacking compared to the competition, though players are available online.

Crossover appeal Fedora Core 3 integrates well with a home Windows network, handling the SMB networking protocol without a hitch. Updating can be done using update or an improved Yum, which aims to solve headaches by downloading associated dependencies (these are associated components needed to run your download, and adding them can make life hell). You can also use the apt updater used in Debian, which does the same thing. There are tons of applications to choose from, and while you can't purchase support for this distro, there's an abundance of community support online.

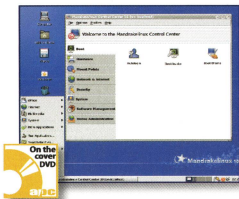


Details

Contact	The Fedora Project
Online	http://fedora.redhat.com
Price	Free download
✓	Up-to-date; solid default security; good package management.
✗	Unable to resize Windows partitions during install; no built-in MP3 support.
Verdict	★★★★★



Mandrakelinux 10.1



Details

Contact	Everything Linux
Phone	(02) 8756 3566
Online	www.elx.com.au
Price	Free download; PowerPack 10.1, \$132.50
✓	User-friendly; great multimedia.
✗	Tends to crash.
Verdict	★★★★☆

Mandrakelinux (available for download from www.mandrakelinux.com) has long been one of the more popular distros around, and it's easy to see why. Based on Red Hat, it's customised to include many extra features that make it more user-friendly, though some buggy elements do take the shine off. **Install** Like SUSE, the Mandrakelinux download page lists a handy DVD ISO download as well as a mini-ISO download, which provides the basic install then downloads the rest online.

Mandrakelinux has one of the better graphical installers in this roundup, though some elements aren't straightforward, especially when it comes to resizing a Windows partition. There were no hardware problems during testing, and the section for choosing a security level is a nice touch. **Nuts and bolts** The standout here, in addition to the handy Mandrake Control Centre for settings configuration, is its selection of multimedia apps. These include built-in MP3 playback using amarok media player for KDE, plus cdparanoia for copying digital audio CDs. Other standard inclusions are Evolution, Gaim, Mozilla and OpenOffice.

This is one of several distributions in the enthusiast line-up based on the Linux 2.6 kernel, though there are stability issues. While very user-friendly, it was buggy during testing and the Konqueror file browser was also a little quirky — a few times it just wouldn't open, and it crashed or closed without any reason. At one point our test system had to be rebooted just to get it to work.

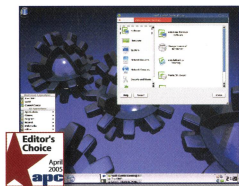
The PowerPack 10.1 retail version, which comes on six CDs, bundles extra components including Nvidia/ATI graphics card drivers, Flash Player, Java Runtime Environment and Acrobat Reader.

Crossover appeal The default KDE desktop looks great and feels very much like Windows. Browsing the test network also worked well, though we couldn't login to the Windows environment as root post-installation (by default). Some users may find this reassuring, but it can also be annoying.

Still, the strength of Mandrakelinux's online following — including a simple-to-use updating tool, and a lot of online support for configuration problems and troubleshooting — make this a distribution worth considering. The PowerPack version includes 60 days of Web support, a one-month membership to the Mandrakeclub and a three-month subscription to MandrakeOnline.



Novell Linux Desktop 9



Details

Contact	Novell
Phone	(02) 8756 3566
Online	www.novell.com.au
Price	\$65 (per desktop)
✓	Up-to-date; stable; user-friendly interface.
✗	No free phone support; no Windows emulation software.
Verdict	★★★★☆

A polished interface, solid support backing and system stability combine to make Novell Linux Desktop 9 a worthy alternative to Windows on the business desktop.

Install Installation is straightforward and provides the option to resize the NTFS Windows partition to make more room for the second OS. The majority of the hardware on our test system was detected, except for the Radeon 9800 graphics card (not an issue in the office). Regardless, the operating system coped well and provided a

good X display. Novell's AutoYaST tool for unattended automated installations is very useful for large rollouts.

Nuts and bolts This is the only business distro on test that uses the 2.6 kernel (2.6.5), a cheeky move considering Red Hat's decision to stick to tried and tested older versions. It includes relatively up-to-date KDE 3.2 and Gnome 2.6, along with Evolution (version 2.0.1), Firefox and Gaim for instant messaging. Also packaged is Novell iFolder, which lets you replicate work on a server for remote access.

The YaST control centre, which can be used for configuring most of the system settings and parameters, worked well in testing and has a better interface than Sun Microsystems' Java Desktop System Release 2 (see page 60). For centralised control over an office full of Novell desktops, there's the ZenworksLinux Management update manager, which connects to a Zenworks server.

Crossover appeal Both the Gnome and KDE desktops were colourful and felt very much like Windows. The file browser is just like Sun JDS's, and showed the C and D Windows drives mounted and filesystem. Network browsing picked up all Windows systems on the network and was a lot faster and more stable than Sun JDS's. Novell's Red Carpet can be used to update your system (though this couldn't be tested as it requires a subscription).

Novell comes with one year of upgrades and updates, plus basic installation support. Unlike Sun or Red Hat, this is available online only via Novell's custom eService system, which requires an ID and PIN. Novell provides the usual access to an online knowledge base and forums, and there are more support options available for purchase.

Unfortunately, it lacks a Windows emulator.

Australia's No.1 Notebook & Media Centre PC*

Top Performance & Great Features

The fastest notebook featuring AMD Athlon™ 64 bit processor - the only Windows compatible 64 bit processor available today!
"Better than most desktop PCs" Australian Personal Computers, Jan 2004
"PC World Best Buys, Mar to Jan 2005. Labs Winner, PC Authority Dec 2004 Best All Round Performer, PC USER, May 2004"

PIONEER POWER 8399 / 8355 NOTEBOOK

- Mobile AMD Sempron 2800 / Athlon™ 64 3000/3200/3400/3700 + Processor
- 15.1" TFT XGA / SXGA, 1400x1050
- Up to 64M Share / 64M ATI 9600 VGA
- 24X CD / 24X CDRW & DVD Combo / 8X Dual Layer DVD-/+RW
- 256/512/1024M DDR PC2700 RAM
- 30/40/60/80/100 GB HD
- 10/100 MLan, 56K Modem, Firewire, 4 USB 2, PCMCIA, 3D Audio, Card Reader
- **Microsoft® Windows XP Home/Professional**
- One Year on Site Warranty, Optional to 2 & 3 years

RRP from \$1699



PIONEER POWER 470K 17" MEDIA CENTRE NOTEBOOK & 43 cm PORTABLE DIGITAL TV

- Mobile AMD Athlon™ 64 3000 / 3200 / 3400/3700 + Processor
- 17" Wide Screen WXGA TFT LCD Monitor and Digital TV (All in one)
- ATI 128M 9700 VGA
- 256/ 512/ 1024M DDR 333/400 RAM
- 40/ 60/ 80/ 100 GB HD, 4 in 1 Card Reader
- 8x Dual Layer DVD-/+RW / 24x CDRW & DVD Combo
- 5.1 S/PDIF Digital Audio with 4 Speakers 1 Subwoofer
- 1G/100/10M Lan, 56K Modem, 1394, 3 USB2
- Build in Video Camera, Wireless Lan, Serial Port, TV Out
- DreamVision Digital TV USB Tuner with TV Recorder
- **Microsoft® Windows XP Professional/ Media Centre Edition**
- **Microsoft® Office 2003 STD**
- One Year On Site Warranty, Optional to 2 & 3 years

RRP from \$2899 Bonus: Creative 5.1 Speaker



Media Centre Operated
by Remote Control



DreamVision™ MP3 player

- Flash: 128,256M,512M, 1G, FM, Line In **From \$99**
- HD: 4G, 20G, 40G HD, FM, Line In **From \$399**

DreamVision™ MP4 player

- 2.G, 20G, 40G **From \$599**



Pioneer All in One Digital Media Centre

RRP from \$3499



Pioneer Set Top PC with AMD Athlon 64 processor

- Dream Vision 27" / 30"
- LCD Monitor/TV
- SD/HD Digital TV
- Gaming Console
- 5.1 Surround Sound
- Internet Browser
- DVD / MP4 Video player
- MP3 / CD Music player
- HDD / DVD recorder
- Microsoft Windows Media Centre

DreamVision™ Camera & Camcorder

- 6 in 1 Digital 2-M pixel Camcorder
 - Camera
 - MP3
- From \$239**



DreamVision™
52x CDR, 4x/8x/16x DVD-/+RW, DL DVD-/+R
RRP from \$0.49 / Disk

DreamVision Digital TV tuner

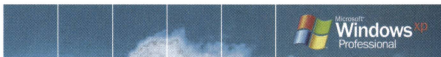
← PCI **RRP \$199**

USB **\$249** →



Pioneer Recommends Microsoft® Windows XP Professional for Business

Do **Amazing** Things
On your new PC.



PIONEER
COMPUTERS AUSTRALIA. & NZ

Proudly Built to Order in Australia

ALL PRICES INC. GST, EXCL. FREIGHT, ALL IMAGES ARE FOR ILLUSTRATIVE PURPOSES ONLY.
ERRORS AND OMISSIONS EXCEPTED

Unit 2, 37 O'Riordan Street Alexandria NSW 2015

Ph: (02) 9690 2888 Fax: (02) 9690 0333

Q.L.D. (07)3257 3879 VIC: (03) 8790 1830 NZ: (649) 377 0497

*APC survey Nov 2003

•ISO9002 Quality Endorsed
Company QEC11489

•Commonwealth Government Endorsed Supplier 263

•State, Local Government Endorsed Supplier

•PCWorld - Best Buys •Australian Personal Computer - Editor Choice •PC Authority - "Speed"

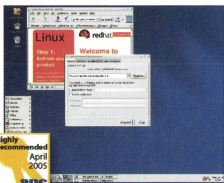
Award AMD, the AMD arrow logo, AMD Athlon logo and combination thereof are the trademarks of Advanced Micro Devices Inc.



www.PIONEERcomputers.com.au • sales@pioneercomputers.com.au



Red Hat Enterprise Desktop Edition 3



Details

Contact	Red Hat
Phone	(02) 8923 2800
Online	www.redhat.com.au
Price	Proxy Starter Pack (10 desktops), \$3,848.90
✓	Phone support; stable.
✗	No central desktop config tool.
Verdict	★★★★★

Red Hat Enterprise Desktop Edition 3 has the goods on paper when it comes to impressing your IT boss thanks to its reputation as a server back end, and for the most part it delivers. It's stable, covers the important software and support criteria and is available in packs of 10 or 50.

Install Installation was a relatively smooth process, with all hardware successfully detected. It has a range of installation methods, including network installation technologies (NFS, FTP and so on) and auto network installations using Kickstart, which speeds up the configuration process.

Perhaps because the Anaconda install tool works so well, Red Hat hasn't changed much in this edition. However, the Disk Druid partitioning utility lacked the ability to resize the Windows partitions on our test system's drive. Not much of a problem on a fresh, Linux-only office desktop, but a possible hindrance on a dual boot setup.

Nuts and bolts Red Hat Enterprise Desktop comes on a whopping 11 CDs and one double-sided DVD.

The DVD was used for the main OS installation, and when it was finished the Extras and Document CDs were loaded. All the basics are covered, with OpenOffice, Evolution for email, Gaim for instant messaging plus some extras including the IBM Java Development Kit and Citrix's thin-client software. Red Hat has added many features found in the 2.6 kernel such as the Native POSIX Thread Library, which improves overall system performance.

Management is a mixed bag. Red Hat's Network Proxy Server or Satellite Server can be used for central management and deployment. However, the most noticeable omission between this and the other business distros is the lack of a single desktop control panel config tool, like SUSE Professional's YaST (Yet another Setup Tool) control centre.

Crossover appeal The slick interface and compatibility with Office documents will appeal to Windows switchers. You can keep it current with the up2date tool. Browsing the Windows network from the Gnome File Manager worked well, though it's not as fast as Novell Linux Desktop.

The Proxy Starter Pack includes 30 days' phone support and one year's access to the Web helpdesk and network updates. Extra support can be bought.



Sun Java Desktop System Release 2



Details

Contact	Sun Microsystems
Phone	1800 628 193
Online	www.sun.com/software/javadesktopsystem/index.html
Price	\$79.71 per desktop
✓	StarOffice 7; Java Studio Standard.
✗	No KDE; buggy; no Windows emulation software.
Verdict	★★★★★

Based on SUSE, Sun Microsystems' Java Desktop System looks promising, though our testing showed that Sun hasn't quite smoothed away some of Linux's rough edges.

Install Installation was straightforward and, like Novell Linux Desktop, it uses YaST. The distro failed to detect the test system's ATI Radeon 9800 XT (again, not an issue for office PCs), but didn't have any trouble using another, more generic driver to give an X display. After a couple of reboots and CD changes, the OS was up and running.

In spite of the fact that other SUSE-based distributions in this roundup can accommodate the resizing of Windows partitions when installing in a dual boot situation, Java Desktop System lacks this feature. This is only an issue if tweaking the partition size of a dual-OS machine is a specific requirement.

Nuts and bolts One big beef is that there's no option to use KDE — you only get Gnome 2.2. This is fine if you want to minimise confusion, but annoying if Gnome isn't your preferred desktop.

Sun's other standout features are the inclusions of StarOffice 7 in preference to OpenOffice and

the Java Studio Standard (J2SE) development tool. Sun JDS also includes Java Media Player, which supports MP3 playback, but doesn't work as well as alternatives such as XMMS or RealPlayer. However, this isn't a major concern in the office environment for which this distro is intended.

Java Desktop System's Management/admin tools include a configuration manager, remote PC access and network deployment, and server management features.

Crossover appeal Sun's interface certainly looks and acts the part, but was let down in the Lab by the number of times it crashed. During testing, Nautilus (with the Samba VFS module) went down repeatedly while we were trying to browse Windows shares from My Network Places. The update system worked, but it took six attempts before it was successful. Unlike some of the other distros here, JDS doesn't come with any Windows emulation software, such as CodeWeavers or Wine.

The package includes free telephone support for one year, plus updates, patches and access to the online forums and knowledge base. Sun also offers extensive paid support options. The JDS Support Package, for instance, costs \$672 for one year of helpdesk support.

Because information is power

The e-STUDIO belongs to a new generation of Multi-Functional Peripherals. Developed in line with Toshiba's unique Network Ready concept, it's an all-in-one office solution with the power to satisfy all your communication needs. It also arrives with the ability to impart Internet-enhanced versatility, without time-consuming application installation.

Empower each member of your organisation, work smarter toward a unified goal — experience the networked advantages of the TOSHIBA e-STUDIO.



TOSHIBA

www.eid.toshiba.co.nz

Auckland (09) 526 7716 • Sydney (02) 9900 1200 • Melbourne (03) 9271 6100 • Brisbane (07) 3456 8800
Canberra (02) 6202 4750 • Adelaide (08) 8363 1011 • Perth (08) 9444 8988 • Darwin (08) 8947 1506 • Hobart (03) 9271 6160





SUSE LINUX Professional 9.2



Details

Contact	Everything Linux
Phone	(02) 8756 3566
Online	www.elx.com.au
Price	Free download; boxed version, \$169.95
✓	Slack KDE desktop; great setup/control centre; up-to-date.
✗	Installation hiccups; some stability issues.
Verdict	★★★★☆

Despite the "Professional" tag, this is classified as suitable for "Linux users and technical enthusiasts". SUSE LINUX (downloadable from www.novell.com/products/linuxprofessional) is a first-class distro used as the basis for several others, including Sun Java Desktop System and Novell Linux Desktop. **Install** Like Mandrakelinux 10.1 and Fedora Core 3, SUSE provides the option to download a DVD ISO image. There's also a mini-ISO download in case the 3.3GB file is too big. SUSE's

YaST installation is easy to use, but was slow during testing (probably because of all the packages we wanted to install) and failed on a few installations.

All hardware was detected and configured correctly. Automated deployment can be done using AutoYaST. Like other SUSE-based distros, our Windows partition was resizable during installation and mounted read-only.

Nuts and bolts Novell has confirmed that the boxed version and the free DVD ISO download of SUSE are essentially the same, the major difference

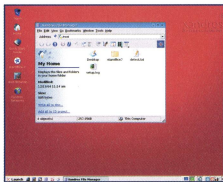
being installation support and updates for purchasers (see table on page 64). In addition to the usual apps (OpenOffice, Firefox, Evolution and Gaim), SUSE throws in RealPlayer and amarok (including MP3 compatibility), ripping and recording tools, and CD and DVD burning. It also includes Adobe Reader and the GIMP photo editing tool.

The YaST Control Center makes it easy to configure hardware such as printers, as well as services such as DNS, DHCP and Samba, rather than using the multitude of other config options. **Crossover appeal** SUSE's default KDE desktop is one of the more user-friendly desktops here, though it's not as responsive as Fedora's. While loading MP3s in RealPlayer, for example, we experienced a terrible lag. The distro's good feature set was also let down by some hiccups in terms of stability — a couple of applications stopped responding, which killed the system. Still, this didn't extend to the file browser problems experienced in Mandrakelinux.

Updating is easy using YOU (YaST Online Update) and we could browse through our Windows network shares without problems. Due to its popularity, SUSE has a lot of online support, which is very useful, especially if this is your first Linux distro.



Xandros Business Desktop OS Version 2



Details

Contact	AKA Technology
Phone	(03) 9562 0022
Online	www.akatech.com.au
Price	\$189 (per desktop)
✓	Crossover Office; StarOffice 7; user-friendly.
✗	Driver support (version 2); some hangs; no paid support.
Verdict	★★★★☆

Xandros is essentially a more user-friendly version of Debian. There are several varieties, including a version for general use (the new version is Xandros Desktop 3), and Xandros Business Desktop Version 2.5 Business Edition, which wasn't available for review at the time of writing but should be by the time you read this.

Install Despite the attractive graphical interface, the initial installation didn't bode well. Xandros supports resizing of Windows partitions, but that option

was inexplicably greyed out on our screen. Also, the display adaptor wasn't detected and after the reboot all we got were a few flickers and a blank screen. While the video card used in testing may be inconsistent with most office PCs, the other business distros in this Labs Challenge coped far better and still managed to give a good X display.

Nuts and bolts As mentioned, Xandros is Debian with an improved user interface and additional business tools. Version 2 includes KDE 3.1.4 and kernel version 2.4.22, with some nice touches, such

as StarOffice 7. It also has client software for Citrix and SAP, plus IBM terminal emulators and Windows PDC Authentication. Email and instant messaging (compatible with AOL, ICQ, MSN, Yahoo! and more) tools are bundled. A Gnome version of the Xandros desktop is not present.

We experienced a few hangs during testing, which slowed the system up. Hopefully the new version addresses this stability issue.

Crossover appeal Xandros looks more like Windows than the rest of the distros, including the XP-like Xandros File Manager (XFM), which replaces the usual KDE Konqueror. XFM allows for easy browsing of network shares, and it was quick and stable on our test Windows workgroup. It also has Windows Active Directory Server Authentication and CodeWeavers Crossover Office, allowing you to run some major Windows productivity applications such as Microsoft Office. The Xandros Networks updating tool worked well, though retail products were confusingly mixed with the freebies.

Support is limited to 90 days via email for installation issues. Unlike Novell or Red Hat there's no option to purchase additional support, though Xandros has promised that this is coming soon.



REACHING NEW LIMITS... FIRST AGAIN



When it comes to pioneering technology, Verbatim stands worlds apart. Whether it's Double Layer DVD media, the fastest ever 16X DVD-Rs or the latest LightScribe Direct Disc Labeling, we continue to develop the highest quality, breakthrough DVD technology in the world. And why do we work so hard? Because we understand the importance of being first. And first impressions count. So if you need to stay light years ahead of the competition, choose Verbatim. Because one small step from Verbatim is a huge leap for you.

 **Verbatim®**

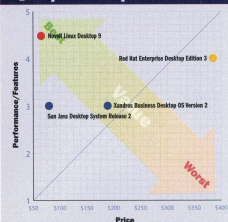
Verbatim Australia

6 Weir St, Glen Iris, Victoria 3146 Australia

t: (03) 9823 0999 f: (03) 9824 7011 e: info@verbatim.com.au

For more information on our complete product range call (03) 9823 0999 or visit www.verbatim.com.au

apc price-to-performance ratio



Our pick for Business was **Novell Linux Desktop 9**, which was user-friendly and had solid back and front end network management features and support options. It also managed to remain stable in testing despite a recent release kernel. Red Hat's expertise on the server end clearly showed through in its polished platform, though it lacked some of Novell Linux Desktop's key features and couldn't beat the rival platform's easy feel.

Fedora Core 3 gets the Editor's Choice in the Enthusiasts category. It's simple to install, easy to use and has a vast number of package choices, meaning it appeals to Linux gurus and newbies. As the testing ground for the Red Hat Enterprise family of products, expect to see some great improvements as time goes by. SUSE Professional 9.2 comes in a very close second with its easy installation, useful features and user-friendliness. This excellent form on paper was only marred by some slight stability hiccups in testing.



Linux specifications

Product	Debian version 3	Fedora Core 3	SUSE Professional 9.2	Novell Linux Desktop 9	Sun Java Desktop System Release 2	Mandrakelinux 10.1	Xandros Business Desktop OS Version 2 Business Edition	Red Hat Enterprise Desktop Edition 3
Price	Free download	Free download	Free download; boxed version, \$169.95	\$65 (per desktop)	\$79.71 (per desktop)	Free download; PowerPack 10.1, \$132.50	\$189 (per desktop)	Proxy Starter Pack (10 desktops), \$13,648.90
Kernel version	2.2.20	2.6.9	2.6.8	2.6.5	2.4.19	2.6.8.1	2.4.22	2.4
System setup style	Text	Graphical	Graphical	Graphical	Graphical	Graphical	Graphical	Graphical
Windows drive partitioning	✗	✗	✓	✓	✗	✓	✗	✗
Package manager	DEB	RPM	RPM	RPM	RPM	RPM	DEB	RPM
Remote update tool	apt	update	YOU	Red Carpet	Sun Online Update	Mandrake Online	Xandros Networks	update
Desktop	Gnome 1.4 or KDE 2.2	Gnome 2.8 or KDE 3.3	KDE 3.3.0 or Gnome 2.6	Gnome 2.6 or KDE 3.2.1	Gnome 2.2 only	KDE 3.2 or Gnome 2.6	KDE 3.1.4 only	Gnome 2.2 or KDE 3.1.3
Office suite	KOffice	OpenOffice 1.1.2	OpenOffice 1.1.3	OpenOffice 1.1.3	StarOffice 7	OpenOffice 1.1.3	StarOffice 7	OpenOffice 1.1
Major multimedia apps include (highlights)	XMMS 1.2.7	XMMS 1.2.10, HelixPlayer (no default MP3 support)	XMMS 1.2.10, RealPlayer, amarok	RealPlayer 10, XMMS 1.2.1, amarok	Java Multimedia player, RealPlayer	Mplayer 1.0pre5, XMMS 1.2.10, amarok	XMMS 1.2.8	XMMS 1.2.7, RealPlayer 8 (no default MP3 support)
Major Web apps include (highlights)	Mozilla 1.0.0, Gaim 0.58, Evolution 1.0.5	Firefox 0.10.1, Gaim 1.0.1, Evolution 2.0.2	Firefox 0.10.0, Gaim 0.82.1, Evolution 2.0.1	Firefox 0.10.0, Gaim 0.82.1, Evolution 2.0.1	Mozilla 1.4, Gaim 0.70, Evolution 1.4.5	Mozilla 1.7.2, Gaim 0.82.1, Evolution 2.0.0	Mozilla 1.4, Kopete and other email clients	Mozilla 1.4, Gaim 0.66, Evolution 1.4.5
Other extras include (highlights)			Adobe Reader, Gimp (photo editing), MainActor 5 (video editing demo)	ZenworksLinux Management, Mono dev. Tools, iFolder, Citrix ICA Client, Flash Player	Java Studio Standard (J2SE), Remote Desktop Takeover, Acrobat Reader, Flash Player	(Retail version includes Nvidia/ATI graphics drivers, Flash Player, Java Runtime Environment, Acrobat Reader)	CrossOver Office, Citrix Client, SAP Client, IBM Terminal Emulators, Windows PDC Authentication, Active Directory Authentication	Acrobat, Flash plug-ins, Java (IBM & BEA) plug-ins, Citrix ICA Client, Agfa Monotype fonts
Web server	apache 1.3.26	httpd 2.0.52	httpd 2.0.50	None	None	apache 1.3.31, httpd 2.0.50	apache 1.3.27,	httpd 2.0.46
Mail server	Sendmail 8.12.3	sendmail 8.13.1	sendmail 8.13.1	Postfix 2.1.1	Sendmail 8.12.6	Sendmail 8.13.1	None	Sendmail 8.12.10
Database server	postgresql 7.2.1, mysql 3.23.49	mysql 3.23.58, postgresql 7.4.6	mysql 4.0.21 postgresql 7.4.5	postgresql 7.4.2, mysql 4.0.18	None	postgresql 7.4.5, mysql 4.0.20	mysql 4.0.13	postgresql 7.3, mysql 3.23.58
Journalised file systems	ext3, ReiserFS, JFS, XFS	ext3	ext3, ReiserFS, JFS, XFS	ext3, ReiserFS, JFS, XFS	ReiserFS	ext3, ReiserFS, JFS, XFS	ReiserFS	ext3
XFree86 version	4.1.0	XOrg 6.8.1	Xorg 6.8.1	4.3.99.902	4.3.0	XOrg 6.7.0	4.3.0	4.3.0
Hardware platforms	Alpha, Arm, HPPA, i386, i64, m68k, Mips, PPC, S390, Sparc	i386, x86-64	i586	i586	i586	i586, x86_64	i386	i386, i64, ppc, s390, s390x, x86-64
Number CDs/DVDs	Seven CDs. (Only "untested" DVD ISOs available at press time.)	Four CDs or one DVD	Five CDs or one DVD	Three CDs or one DVD	Three CDs	Three CDs or one DVD. (Retail version includes six CDs or one DVD.)	Two CDs	Eleven CDs and one DVD
Origin	Global	USA	Germany	USA	USA	France	Canada	USA
Support	None	None	None (Box version includes installation support via Web and access to updates for 2 years)	Price includes 1-year online installation support, upgrades and updates. Extra support available for purchase.	Price includes 1 year of software maintenance, upgrades, phone support. Extra support available for purchase (\$672 for 1-year helpdesk access).	None. (Box version includes 60 days of Web support, a 1-month membership to Mandrakeclub and a 3-month subscription to MandrakeOnline.)	Price includes 90-day installation support via email. No additional paid support available at the time of writing.	Price includes 30-day phone escalation, 1-year Web helpdesk escalation, 1-year's access to network updates. Extra support available for purchase.

Subscribe now for your chance to **WIN!**

1 of 4

NAVMAN PiN Pocket PCs

Save over \$37

by subscribing now.

Receive 12 issues of

**Australia's biggest technology
magazine delivered to your
door for only \$79.95**

**Phone 136 116 and quote "M504APC" or
subscribe online at www.apc-magshop.com.au**

**valued at
\$949 each**

Introducing the Navman PiN Pocket PC™, a fully fledged GPS (Global Positioning System) solution with integrated Pocket PC™ capabilities.

This Personal Interactive Navigation device is where personal organisation meets state-of-the-art navigation. Coordinate your life and get from A to B without any hassle with this all-in-one compact and stylish device.

The PiN implements Navman's latest GPS technology and SmartST™ V3 navigation software and doubles as the perfect personal organiser using the latest Pocket PC™ functionality with Microsoft®'s Windows Mobile 2003 operating system.

For more information on the Navman PiN Pocket PC or other products in the Navman range check out www.navman.com.

TERMS AND CONDITIONS

1. Information on how to enter and prize forms part of these conditions of entry. 2. Entry is open to all residents of Australia who subscribe or renew their subscription to APC between 9/03/05 to 12/04/05. Entry is automatic upon and subject to the correct use of a valid credit card or, if payment is made by cheque, the cheque must be cleared for payment. Subscriptions are to be sent by mail to APC, Reply Pad 3357, Sydney, 2001, or made by telephone on freecall 136 116 or via the Internet at www.apc-magshop.com.au. Employees of the Promoter and their immediate families and agencies associated with this promotion are ineligible to enter. This offer is not valid in conjunction with any other offer. Only one entry per person per subscription. 3. The Promoter reserves the right to verify the validity of entries and to disqualify any entrant who tampers with the entry process or who submits an entry that is not in accordance with these Conditions of Entry. 4. Promotional period commences 9/03/05 and closes 23/59 EDT 12/04/05. All entries will be collated to go into the one draw to ensure that each entrant has a fair and equal chance of winning. The draw will take place at 11am EDT at the Promoters premises on 15/04/05. The winners will be notified by mail and telephone (using contact details provided in the subscription) and their name will be published in the Public Notices section of The Australian on 19/04/05. Judges' decision is final and no correspondence will be entered into. 5. The first four valid entries drawn will each win a Navman PiN Pocket PC valued at \$949 each. Total prize pool valued at \$3,796. Prize is not transferable or exchangeable and cannot be taken as cash. The Promoter is neither responsible nor liable for any change in the value of the prize occurring between the date this magazine is published and the date the prize is claimed. 6. The Promoter may conduct such further draws at the same place as the original draw as are necessary on 29/07/05 in order to distribute any prizes if unclaimed by that date subject however to any written directions given under Reg 37 of the Lottery and Gaming Regulations 1993 (SAL). In the event of any winners in the unclaimed prize draw, their names will be published in The Australian on 2/08/05. 7. The Promoter shall not be liable for any loss or damage whatsoever which is suffered (including but not limited to indirect or consequential loss) or for any personal injury suffered or sustained in connection with the prize except for any liability, which cannot be excluded by law. 8. The Promoter accepts no responsibility for late, lost or misdirected entries. The Promoter accepts no responsibility for prizes damaged in transit. 9. The Promoter is not responsible for any incorrect or inaccurate information, either caused by the phone user or Web site user or for any of the equipment or programming associated with or utilised in this competition, or for any technical error or any combination thereof that may occur in the course of the administration of this competition including any omission, interruption, deletion, defect, delay in operation or transmission, communications line or telephone, mobile or satellite network failure, technical problems or traffic congestion on the Internet or Web site, software failure, theft or destruction or unauthorised access to or alteration of entries and any injury or damage to participants or any other person's computer related to or resulting from participation in or downloading any materials in this competition. 10. All entries become the property of the Promoter. 11. The collection, use and disclosure of personal information provided in connection with this competition is governed by the Privacy Notice (see Contents page). 12. The Promoter is APC Publishing Pty Ltd (ABN 18 053 273 546) of 54-58 Park Street, Sydney, NSW 1028. Authorised Under NSW Permit No. TPL04/13988; ACP Permit No. TP04/S404; NT Permit No. NT04/12120; SA Permit No. T05/44.



Sub-\$400 PCI Express graphics cards

Valens Quinn checks out 10 graphics cards with gaming in mind.

How we tested

The performance of the cards was assessed with 3DMark03 SE Pro, 3DMark05, Aquamark, and under Fraps in Far Cry, Doom III and Half-Life 2. The test system was based on an Intel Pentium 4 3GHz, Intel 915 chipset, 512MB of DDR400 RAM and a Gigabyte GA-8191SP-MF motherboard.

What most people shopping in the mid-range graphics card segment want to know is whether these cards can cope with games such as Half-Life 2, Doom 3 and Far Cry at playable frame rates (1,024 x 768). To answer this question, APC rounded up 10 PCI Express cards to see how they coped.

ATI cards were tested using Catalyst version 5.1 drivers, while Nvidia cards were tested using ForceWare version 66.93. Factors assessed included feature spec, cooling solution, noise, software and accessories.

Cards with Nvidia's 6600 GT GPU have an

advantage over ATI X600 and X700 cards thanks to support for DirectX 9's Shader Model 3.0. Nvidia also includes High Dynamic Range support as a way to improve the look of scenes, although this feature does result in a performance hit.

While most cards in this Labs Challenge include outputs for TV, some are also equipped to link up with HDTVs via component cables. All Nvidia cards here support HDTV resolutions up to an impressive 1,920 x 1,080, while the ATI cards only go as high as 1,024 x 768. A few of the cards also support video-in, should you want to capture DVD or VHS video. SLI support allows you to increase graphics power if you have a second card to plug in beside it.

ABIT RX700 Pro-256PCIE

Performance ABIT's RX700 Pro-256PCIE fared well against some of the other X700 cards here, but it wasn't a standout overall. While this card performed well in some synthetic benchmarks, scoring 2,966 on 3DMark05, the ABIT didn't have the grunt to beat any of Nvidia's offerings.

Real world games tests ranked it in the middle of the pack in high detail modes, with an average of 64.72fps on Half-Life 2, but it performed considerably better with low detail settings. It ranked near the top in Doom 3 with 31.23fps and a respectable fourth in Half-Life 2 with 89.72fps.

Specs The ABIT's ATI X700 GPU is one of three cards here with 256MB of ultra-fast GDDR3 memory. As a result, it's capable of a 3.4 gigapixels per second fill rate, and includes six parallel geometry pipelines,

compared to two or three on some of the other cards in this roundup. The orange circuit board is covered by a fan and heatsink apparatus that stretches across all of the RAM modules. Fan noise is average compared to the other cards.

The package This card includes higher-quality cables than most, with a slightly thicker gauge and more robust connectors. S-Video, composite and S-Video to composite (RCA) cables are included, plus a DVI to VGA adaptor. There is no video-in.

Software isn't a standout, with only CyberLink's PowerDVD 5 and PowerDirector and no games. Considering that there's not a lot of difference between this card and the offerings from MSI or PowerColor, it would be good to see some games and extra software in the bundle.

Albatron PC6600 GT

Performance The Albatron was a strong contender, coming first in Aquamark and second in 3DMark05 and 3DMark03. The card was also strong on the high detail games tests, ranking first in Half-Life 2 (70.36fps) and second in Doom 3 (30.08fps). It wasn't nearly as strong on low detail tests — eighth in Half-Life 2 (84.12fps) and Far Cry (101.48fps) — but it's the high detail results that will count for most people.

Specs Standard Nvidia features are included, such as DirectX 9 Shader Model 3.0 support, as well as UltraShadow II technology. This particular feature is designed to improve the performance of shadow-intensive games like Doom 3, and judging by the Albatron's rankings, it seems to have helped.

However, these good test results were let down by the card's high-pitched whining, which changed

pitch in tandem with movement on the screen. This could mean poor shielding on the card, and while this may be an isolated issue with the review model, it's worth making sure the card can be returned should this happen to you. A large fan and heatsinks cover all of the RAM modules.

The package This card lacks video-in though another model in this range, the Albatron PC6600 GTV, does. DVI and VGA connections are covered on the backplane, and an HDTV module houses HDTV component connections, plus S-Video and composite for normal TVs. SLI is included for twin-card performance but there's no DVI to VGA adaptor, which is odd considering most other cards have one. The software bundle only has a copy of ARX Fatalis, a game sampler CD and InterVideo WinDVD Creator.



Details

Contact Altech Computers
Phone (02) 9735 5655
Online www.altech.com.au
Price \$359

✓ Good quality video cables.

✗ Mixed performance; no games; no video-in.

Verdict ★★★★★



Details

Contact AMI Computers
Phone (07) 3808 9255
Online www.ami-computers.com
Price \$299

✓ Excellent performance on high-detail tests and synthetic benchmarks; SLI.

✗ High-pitched whining noise; disappointing software.

Verdict ★★★★★

ASUS Extreme AX600XT/HDTV

Performance This card's synthetic tests averaged about half that of cards with faster GPUs. As for actual games, the ASUS couldn't manage a usable frame rate in high detail modes, with results as low as 14.3fps (not an average) in Half-Life 2.

Performance became much more usable in lower detail settings, which in the case of Half-Life 2 jumped to an average score of 74.28fps. Doom 3 and Far Cry 2 yielded similar results. Of the two ATI Radeon X600-based cards, the ASUS was faster than the Sapphire in low detail modes.

Specs The low scores were no surprise considering the card has the least powerful graphics engine on test. The ATI X600 graphics processor is a lower-end unit than the ATI X700 and Nvidia 6600, and incorporates four rather than eight pixel

pipelines. Unlike most of the other X700-based cards, just 128MB of DDR memory is included (though this isn't much of an issue currently). It's good to see that heatsinks are used to keep the memory cool, but the fan is fairly noisy.

The package The ASUS Extreme AX600XT is one of the few cards to support both video-out and video-in connectivity, made possible via a separate cable extension box (VIVO). This supports both S-Video and composite cable types. If you have an HDTV you can run video to it with the supplied component connector cable. While there's only a DVI port for digital displays, a VGA adaptor is included.

The well-rounded software bundle includes Deus Ex: Invisible War, Ulead's Cool 3D 2.0 and Photo Express 4.0 SE, CyberLink PowerDirector 3 and more.



Details

Contact	Achieva Technology
Phone	(02) 9742 3288
Online	www.achieva.com.au
Price	\$349

✓	Loads of software; video-in.
✗	Slow graphics performance at high detail; noisy.

Verdict ★★★★★

GeCube Radeon RX700PRO

Performance This ATI-based card ranked fourth in Half-Life 2's high detail mode and third in low detail, with averages of 66.5 and 89.82fps. Far Cry results were also strong, with second place in both high and low detail modes. It was the fastest of all cards in this roundup on the low detail Doom 3 benchmark, scoring 31.27fps, but dropped back to seventh place in high detail mode, with 27.38fps.

In synthetic tests the GeCube wasn't a pack leader, falling into eighth place on 3DMark03. However, its fifth place rankings on 3DMark03 and Aquamark were the best of the ATI cards.

Specs The main difference between the GeCube and other ATI cards on test is that it only has 128MB of GDDR3 memory. This means less room for textures, which would slow the card down during

situations where a lot of detail is needed (though this card's mostly strong test results in high detail suggest memory isn't a big issue yet). The GeCube features the same hardware as the other X700 cards — 425MHz core, eight pixel pipelines, 128-bit memory bus and six vertex units.

Fan noise was louder than average, though you can opt for a fanless version, the SilenCool Solution, which uses heat piping.

The package DVI, S-Video and VGA connectors are supplied on the backplane and there's a composite S-Video/composite cable for connecting to a TV, plus a component cable for HDTV. A DVI to VGA converter is also supplied, but there's no video-in. Software is limited to CyberLink PowerDVD 5.0 and the obligatory manual and drivers.



Details

Contact	Kingmax Technology
Phone	(02) 9648 4658
Online	www.kingmax.com.au
Price	\$325

✓	Mostly strong high detail game test performances.
✗	No games and few utilities; fan noise; no video-in.

Verdict ★★★★★

Gigabyte GV-NX66T128D

Performance While the Gigabyte is by no means the slowest card in the pack, it was one of the slower Nvidia-based cards. Under synthetic tests, the Gigabyte ranked third in Aquamark 3 and fourth under the 3DMark03 and 3DMark05. However, under Far Cry it was a little different, placing third on the high detail test with 36.25fps, but bottoming out on the low detail test with 100.93fps, ranking ninth.

Specs The Gigabyte has Nvidia's 6600 GT graphics processor and 128MB of DDR3 RAM, the same as the other 6600 GT cards here, but less than some of the X700 cards. Like other Nvidia cards, it's compatible with DirectX 9.0c, which includes Shader Model 3.0, and gives the Nvidia cards an advantage in Far Cry 1.3 (which supports this feature).

The card's gold fan and heatsink unit is fairly large but doesn't quite extend to cover the card's memory chips. Fan noise rated as average.

The package Connectivity includes standard and high-definition TVs via the separate port module. This provides connectors for S-Video and component video to HDTV. Standard VGA-out and digital DVI connectors are included on the backplane, and there's SLI for twin-board setups. All that's missing is a video-in facility.

Gigabyte throws a few games into the package, including Thief and Joint Operations: Typhoon Rising. There's also a copy of CyberLink PowerDVD 5.0 and V-Tuner II, which is used for overclocking the card. Overall, there are better software packages around, but this one is decent for the price.



Details

Contact	Rectron
Phone	(03) 9561 6166
Online	www.rectron.com.au
Price	\$306

✓	Decent software; SLI.
✗	Mixed performance; no video-in.

Verdict ★★★★★



Details

Contact Rectron
Phone (03) 9561 6166
Online www.rectron.com.au
Price \$299

✓ Strong all-round performance; quiet; decent software package; SLI.
 ✗ No video-in.

Verdict ★★★★★

Leadtek WinFast PX6600 GT THD 128MB

Performance The Leadtek WinFast performed very well, ruling the pack in Half-Life 2's low detail benchmark (91.93fps), and taking second place on the high detail test with 70.34fps. It also scored first place in the high detail Far Cry test with 36.71fps. While it ranked fifth in the Doom 3 high-detail test with 29.78fps, the difference between the Leadtek (29.783fps) and the pack leader, the GeForce RTX700PRO (30.25fps), was marginal.

Synthetic benchmark results also highlighted the Leadtek's abilities, with third place in both 3DMark05 and 3DMark03, and fourth in Aquamark.

Specs This card uses an Nvidia 6600 GT graphics processor, with 128MB of GDDR3 RAM, 128-bit memory bus, eight pixel pipelines and support for DirectX 9's Shader Model 3.0.

A fan and small heatsink apparatus keep the GPU cool, though it doesn't extend to cover the memory modules. In terms of noise, the fan is among the quietest in this Labs Challenge.

The package Most of the usual connectivity options are here, bar video-in. You can connect the WinFast to an HDTV with the included component adaptor, which also houses S-Video and composite connectors. There are the usual DVI and VGA connectors, along with a DVI to VGA adaptor. This is one of four cards here with an SLI interface for linking to another similar card.

Packaged software comprises Prince of Persia: Sands of Time, Splinter Cell: Pandora Tomorrow, InterVideo WinDVD 5.0, Muvee AutoProducer 3 and the WinFox II hardware monitoring application.



Details

Contact MSI Australia
Phone (02) 9748 0070
Online www.msicomputer.com.au
Price \$399

✓ Loads of software.
 ✗ Average high detail performance; no component cable; no video-in.

Verdict ★★★★★

MSI RX700Pro-TD256E

Performance MSI's ATI-based card ranked down the list in the synthetic benchmarks, scoring seventh in 3DMark03 and sixth in 3DMark05. However, it fared much better with actual games, especially in low detail modes where it ranked second in Half-Life 2 (90.06fps), and third in Doom 3 (31.23fps) and Far Cry (112.22fps). With the detail pumped up, the MSI fell back into sixth place in Half-Life 2 (65.8fps) and Far Cry, and fourth place in Doom 3. Interestingly, the Doom 3 results didn't vary much between high and low detail modes, something reflected by the other X700-based units.

Specs Given this card's 256MB of ultra-quick DDR3 memory, the slow high detail scores again show that extra memory isn't everything. Other specs are also solid, including eight pixel pipelines and six vertex

units. A large heatsink and fan system extending from the GPU to the memory modules keeps the MSI's components cool. Fan noise was average.

The package What makes this package really shine is the software bundle. Three full version games are supplied (XIII, Uru: Ages Beyond Myst and Prince of Persia: Sands of Time) along with a 14 game demo sampler and utilities including FarStone's Virtual Drive 7 and RestoreIt 3, Adobe Photoshop Album SE, MSI 3D Desktop, a DVD player and more.

Connectivity is standard, with S-Video, DVI and VGA. Dual monitor mode is supported, there's a DVI to VGA adaptor and an S-Video extension cable. There's no facility for video-in or connecting to an HDTV through a component connection, but it can be done via DVI or VGA if the TV is compatible.



Details

Contact Australia IT
Phone 1300 668 715
Online www.powercolor.com.tw
Price \$330

✓ Strong in-game benchmarks; great software package.
 ✗ Poor synthetic benchmark results; no video-in.

Verdict ★★★★★

PowerColor X700 Pro

Performance While Nvidia-based cards dominated the top ranks, the ATI-based PowerColor managed first place on Doom 3 in high detail mode with 30.25fps, and came in just behind the top scores in low detail mode with 31.2fps. It also topped the Far Cry low detail test, scoring 113.68fps. It was less impressive in the synthetic benchmarks, ranking as low as eighth place in 3DMark03 and Aquamark with 6,786 and 46,487 respectively.

Specs The PowerColor has the same hardware features as the other X700 cards in this roundup, including programmable vertex and pixel shaders and DirectX 9.0c Shader Model 2.0. It also has 256MB of high-speed DDR3 memory, which could come in handy when future games require more memory.

A large heatsink and fan unit is attached to the

PCB, but it only covers half of each memory module. Fan noise is average, though PowerColor also has a fanless version, the SCS X700 Pro, should this be a concern.

The package PowerColor offers a package with abundant software and video-out cables, but no facility for video-in. For connecting to HDTVs, the card supports resolutions up to 1,024 x 768 via the supplied component cable, which plugs into the S-Video socket. Otherwise the usual DVI and VGA connectors are present, including an S-Video to composite cable and DVI to VGA adaptor.

Software includes Hitman: Contracts, as well as CyberLink's PowerDVD 5.0, PowerProducer 2.0 Gold, PowerDirector 3.0 SE+, Power2Go 3.0 and Medi@show 2.0 SE.



LONG ROAD TRIP AHEAD?

TUNE IT IN FM Transmitter



AET01AU RRP: **\$79.95**

Transmit your favourite music from an audio source, such as a notebook MP3 player, iPod and MD player to your own FM stereo system

*Targus has everything
you need to keep
you and your family
entertained from
here to Timbuktu!*

MOUNT IT Vehicle DVD Player Travel Case

DVD405 RRP: **\$49.95**

Three different mounting configurations make this portable DVD player case a versatile choice for in-car viewing.



POWER IT Universal AC/DC 70W Adaptor



APM10AU RRP: **\$249.95**

Play the latest DVDs in your car through the power produced by your cigarette socket.

LET IT RIP USB 2.0 Rewriteable DVD +/- RW Slim External Drive



PADVW010U
RRP: **\$699**

Rewrite your favourite DVDs and files with this portable & lightweight USB operated DVD Burner.

CRANK IT UP Multimedia Notebook Speakers



AWM04AP RRP: **\$79.95**

Connect these speakers to your notebook via one USB connection and listen to your favourite music all day long.

BlackTop Messenger



CBT200 RRP: **\$69.95**

Urban messenger style case with zip-down flap to get to your accessories.

Sports Backpack



CZ1000 RRP: **\$149**

SafePORT™ air cushion guards your notebook against bumps for when you're on the go!

CityGear Rolling Phoenix



TCG700AU RRP: **\$179.95**

Your own set of wheels with loads of space for your notebook accessories and even change of clothes

Aluminium Attache



TED001 RRP: **\$149.95**

Tough & durable aluminium case fits notebooks up to 17"

Making Your Mobile Life Easier®

Call 1800 641 645 or visit www.targus.com/au

Revised for products effective February 2005. Features and specifications are subject to change without notice.



Details

Contact	Achieva
Phone	(02) 9742 3288
Online	www.achieve.com.au
Price	\$230
✓	Inexpensive; quiet fan.
✗	Poor performance; light on extras.
Verdict	★★★★☆



Details

Contact	Australia IT
Phone	1300 668 715
Online	www.sparkle.com.tw
Price	\$330
✓	Good all-round performance; video-in; SLI.
✗	No DVI to VGA adaptor; disappointing software package.
Verdict	★★★★☆

Sapphire Radeon X600Pro

Performance Considering its lower-end graphics processor, it wasn't surprising to find the Sapphire at the bottom of the pack. It ranked last in synthetic tests, but did slightly better with the real-world games. For the most part, its score moved between last and second last, except in Far Cry's low-detail test, where it ranked seventh with 103.97fps.

Specs The Sapphire is one of two cards here based on the ATI X600 (the other is the ASUS), which means it has four rather than eight pixel pipelines, and two rather than four vertex units. There's 128MB of DDR RAM, which isn't as fast as GDDR3. The X600 includes ATI's Smartshader 2.0 to enable Microsoft's DirectX 9 Shader support; Smoothvision 2.1 for eliminating jaggies; and VideoShader for hardware enhanced video playback.

This card made the least amount of noise throughout testing due to its small fan, though there aren't any heatsinks for the surrounding circuitry or memory.

The package The Sapphire comes with all the basics but doesn't go overboard on extras. Connections consist of a DVI, VGA and S-Video outs, but there's no video-in. At the time of writing there was no VIVO version of this card. S-Video and composite cables are provided, along with a DVI to VGA adaptor. If you want to connect to HDTV you'll need to buy extra cables.

Only one game is included, Splinter Cell: Pandora Tomorrow, plus CyberLink PowerDVD for playing movies and the Redline Tweak utility for overclocking the card and other finetuning.

Sparkle GeForce 6600 GT 128MB

Performance The Sparkle produced the best series of scores on our synthetic tests, landing first in 3DMark03 and 3DMark05 and second in Aquamark.

We also expected a strong showing in our games tests and the Sparkle didn't disappoint, although Far Cry results weren't as good as the other two. The Sparkle ranked fifth in Far Cry's high detail test with 35.55fps, and a surprising tenth on the low detail test with 100.91fps. However, it did much better on Doom 3 and Half-Life 2, coming third in both high detail tests with 30.05 and 66.76fps respectively.

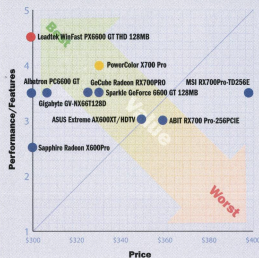
Specs The Sparkle follows the same formula as the other GeForce 6600 GT-based cards in this roundup, with 128MB of DDR3 RAM and eight pixel pipelines, though it only has three vertex units. It also features

DirectX 9.0c with Shader Model 3.0 support for Far Cry. A medium-sized fan sits on the blue circuit board, though it doesn't extend to cover the card's RAM. Fan noise rated as average.

The package This is one of the few cards here with video in — a video-in/video-out adaptor provides connections for S-Video as well as HDTV (component) connections. A better option than the loose cables would be to include a VIVO station, like the one in the ASUS Extreme AX600XT/HDTV's package. Connectivity is solid (DVI, VGA, S-Video), though there's no DVI to VGA adaptor. The Sparkle is also one of the few cards here to support SLI for plugging in a second card.

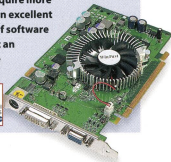
While there are plenty of cables, only CyberLink PowerDVD 5.0 and graphics drivers are supplied.

apc price-to-performance ratio



It was close, but Leadtek's WinFast PX6600 wins the Editor's Choice award. It offers great performance in both real-world games and synthetic tests with a solid range of software and connectivity options. If you want to max-out resolutions, detail and filter settings in these games, you'd be advised to pony up the cash for a higher spec ATI X800- or Nvidia 6800-based card. However, this could set you back anywhere up to \$700 or more. The WinFast has the benefit of an SLI interface, comes with a DVI to VGA adaptor, and can connect to HDTVs with supplied component cable.

For ATI fans, the PowerColor X700 Pro is a solid choice. While its benchmark results aren't as rounded as the WinFast's, and the card is noisier, it managed to place first in several gaming tests. And its 256MB of DDR3 memory gives the card a degree of future-proofing when games come out that require more memory. An excellent selection of software rounds out an impressive package.





Graphics card specifications table

	Sapphire Radeon X600Pro	★ Editor's Choice Leadtek WinFast PX6600 GT TDH 128MB	Albatron PC6600GT	Gigabyte GV-NX661280	GeCube RX700PRO	PowerColor X700 Pro	Sparkle GeForce 6600 GT 128MB	ASUS Extreme AX600XT/HDV	ABIT RX700 Pro-256PCI-E	MSI RX700Pro-TD256E
Price	\$230	\$299	\$299	\$306	\$325	\$330	\$330	\$349	\$359	\$399
GPU	ATI Radeon X600 Pro	GeForce 6600 GT	GeForce 6600 GT	GeForce 6600GT	ATI Radeon X700 Pro	ATI Radeon X700 Pro	GeForce 6600 GT	ATI Radeon X600 XT	ATI Radeon X700 Pro	ATI Radeon X700 Pro
Pixel pipelines	4	8	8	8	8	8	8	4	8	8
Core/memory clockspeeds	400MHz/300MHz	500MHz/500MHz	500MHz/1000MHz	500MHz/500MHz	425MHz/430MHz	425MHz/430MHz	500MHz/1000MHz	503MHz/368MHz	425MHz/430MHz	425MHz/430MHz
Memory	128MB DDR	128MB GDDR3	128MB GDDR3	128MB GDDR3	128MB GDDR3	256MB GDDR3	128MB GDDR3	128MB DDR	256MB GDDR3	256MB DDR3
Vertex units	2	3	3	3	6	6	3	2	6	6
DirectX	9	9.0c	9.0c	9.0c	9.0c	9.0b	9.0c	9	9	9.0b
Connectors	DVI, VGA, S-Video	DVI, S-Video, VGA, SLI	DVI, S-Video, VGA, SLI	DVI, S-Video, VGA, SLI	DVI, VGA, S-Video	DVI, VGA, S-Video	DVI, S-Video, VGA, SLI	DVI, S-Video, HDV connector	DVI, VGA, S-Video	DVI, VGA, S-Video
Software	Splinter Cell, PowerDVD, Redline Tweak	Prince of Persia, Splinter Cell, WinDVD 5.0, Muvue AutoProducer 3, WinFox II	ARK Fatalis, games sampler CD, WinDVD Creator	Thief, Joint Operations: Typhoon Rising, PowerDVD 5.0, V-Tuner 2	PowerDVD 5.0, ATI Driver CD and Game CD	Hillman: Contracts, PowerDVD 5.0, PowerProducer 2.0 Gold, PowerDirector 3.0 SE, Power2Go 3.0, Medi@show 2.0 SE	PowerDVD 5.0, driver	Deus Ex: Invisible War, ASUS DVD IP, Power Director 3, Media Show, Ulead Cool 3D+Photo Express, ASUS utilities	PowerDVD 5, Power Director Video Editing Software	Prince of Persia: Sands of Time, Uri: Ages Beyond Myst, XIII, 14 game demo sampler, MSI Media Center Deluxe 1, WinDVD Creator Plus, Virtual Drive 7 Pro, Restore IT Pro, MS 5.1ch DVD Player, Foreign Language Learning Center, MSI Super Pack (Photoshop Album SE, 3D Album SE), MSI 3D Desktop, MSI driver/utilities
Accessories	Composite cable, S-Video cable, DVI to VGA adaptor	VGA to DVI, HDV cable (component output plus TV-out)	HDV module	Component cable (HDV), DVI to VGA adaptor	DVI to VGA adaptor, combo cable for composite video and S-Video output, HDV cable	Composite cable, S-Video in, component (HDV) cable, DVI to VGA adaptor	Composite in, S-Video in, component-out, S-Video-out; DVI adaptor, S-Video cable	VIVO adaptor (S-Video and composite in/out), DVI to VGA adaptor, component (HDV) cable	S-Video cable, composite cable, DVI to VGA adaptor, S-Video to composite adaptor	D-SUB-DVI: 1-4 connecting cable, DVI to VGA adaptor
Heatsink for memory	No	No	Yes	No	Half	Half	No	Yes	Yes	Yes
Noise	Quiet	Quiet	Noisy	Average	Noisy	Average	Average	Noisy	Average	Average
Benchmarks										
3DMark03 SE Pro*	3,464	7,968	7,978	7,864	7,271	6,786	7,986	4,168	7,141	7,116
3DMark05 Pro**	1,401	3,139	3,150	3,069	2,637	2,864	3,158	1,529	2,966	2,954
Aquamark3***	27,524	49,512	50,135	49,926	49,095	46,487	50,026	33,431	48,513	48,197
Far Cry	1,024 x 768 / low detail / 1AA / no ASF	103.97	107.32	101.48	100.93	112.88	113.68	100.91	109.36	112.02
	1,024 x 768 / ultra detail / 2xAA / 8xAF	16.79	36.71	35.6	36.25	36.67	34.87	35.55	20.58	34.68
Doom 3	1,024 x 768 / low detail / no filtering	26.517	31.25	31.25	31.25	31.267	31.2	31.25	28.783	31.233
	1,024 x 768 / high detail / 2xAA / 8xAF	20.55	29.783	30.083	30.05	27.383	30.25	30.05	20.067	29.783
Half-Life 2	1,024 x 768 / low detail / no filtering	64.5188	91.9334	84.1154	87.8234	89.82	89.5432	83.8834	74.28	89.7168
	1,024 x 768 / high detail / 2xAA / 8xAF	33.57	70.3436	70.3634	66.3002	66.5	60.65	66.7568	31.2014	65.7966

* Default: 1,024 x 768 / noAA / optimal texture filtering ** Default: 1,024 x 768 / noAA / optimal texture filtering *** Maximum profile selected using PC Games hardware demo map



Small form factor barebones PCs

Run out of desk space? *Nick Race* looks at five solid contenders for the small form factor system crown.

How we tested

Each i915/925 system was fitted with a Pentium 4 3.6GHz processor, Kingston KH5400D2/512 memory, Seagate 7200.7 SATA 120GB hard disk drive and Sony DRU-710A optical drive. A Pentium 4 3.2GHz processor, Kingston PC2700, Seagate 7200.7 SATA 120GB hard drive and Sony DRU-710A optical drive were installed in Intel 865-based systems. Attention was paid to each component's ease of installation.

Each system was benchmarked using Business Winstone 2004, Multimedia Content Creation Winstone 2004, PCMark04, 3DMark01 SE Pro, 3DMark03 and Halo.

Other factors considered included hardware spec, build quality, cooling system, noise, software, accessories and warranty.

Buying a mini PC doesn't mean you have to skimp on performance or value for money. The important thing is to find a design that successfully squeezes the internals of a Pentium 4 into a case roughly the same size as a shoebox. In the past, building a system in a small form factor case has been a trial. The combination of large hands, tight space and sharp aluminium edges can get very messy and frustrating.

Fortunately the design of mini PCs (aka small form factor machines) has come a long way. For the most part, the barebones systems featured here have improvements made to assist with installation. Hinged front panels, slide-in hard drive bays and removable cowls make fiddling in the interior a much easier (and safer) task. All the systems here have high build quality: aluminium edges are all rolled for safety; cables, where routed, are neatly presented; fit and finish are exceptional.

The technology used in keeping the tightly packed components cool has also come a long way. From the Shuttle SB95P's cross-system BTX-style airflow design to the Kloss KL-1915A's two-tiered approach, cooling is a major consideration in the layout of these systems. And quite rightly too: with cramped interiors, the chance of components overheating increases.

That's not to say there are no drawbacks from moving to a mini system. In addition to fiddly

installations, the tight space inside the cases can also limit your technology options; heatsink-heavy video cards may not fit, the number of hard drives that can be accommodated is obviously limited, and some optical drives might be too big. Map out the components you want before buying the case to avoid trouble.

While these space limitations can make buying a mini PC a riskier exercise in some respects than a full-size tower, they also result in some interesting case design. Many of the systems reviewed here look markedly different from the competition, whether it's because of hinged case access or front panel multimedia controls.

These features mean mini PCs are great niche systems for the lounge room, LAN parties or the style-conscious. If you're willing to stretch your imagination, it's even possible that tool-less entry models could find favour as business desktops. What better complement to a space-saving flat panel monitor than a mini PC? Of course, many big name vendors have already released their own pint-size office machines, but these barebones systems represent a cheap alternative.

In the near future, even smaller systems are likely to appear, with Nano ITX 12cm motherboards already available and inspiring such experiments as the Nanode, a media system with 6-channel surround sound that fits in your hand. There's also the new \$800 Mac mini. The upgrade limitations of such systems ensure that tiny desktop PCs remain a curiosity for the moment, but the potential is obvious.



Details

Contact	Cassa Australia
Phone	(07) 3853 5444
Online	www.asus.com.au
Price	\$449

✓ Good Socket 478 performance; carry handle.

✗ Fan noise; cables can get caught.

Verdict ★★★★★

ASUS S-Presso S1-P112

Specifications ASUS's S-Presso S1-P112 has a snazzy, pearly blue finish, though the hardware itself doesn't stand out. The S-Presso is the only system in this Labs Challenge to pair Intel's 865G chipset with Socket 478, putting it at a disadvantage when it comes to future upgradeability.

Unlike several of the other systems, it also relies on AGP for graphics expansion, not PCI Express. It will fit one optical drive and one hard disk drive. Connectivity options are good (six USB 2.0 ports, two FireWire ports and a 7-in-1 card reader) but there's no remote control or wireless connectivity.

Build The front panel has a scissor hinge that ensures it won't drop down while you're adjusting the internals, or open when picking it up by the

top-mounted carry handle. Building the unit up with the test components was simple, but cables could easily be caught and severed when closing the unit.

Cooling and performance The CPU is cooled with a side-mounted fan and heat pipes. The CPU fan and extraction fans are suited only to gamers with a high tolerance for fan noise (or good headphones). In the APC Labs it earned the nickname "the wind tunnel".

In testing, the ASUS revealed itself as a solid, if noisy, performer. In Business Winstone 2004 and Multimedia Content Creation Winstone 2004 it outperformed the other i865G-based SFF system, the MSI MEGA 865 Pro, by one and two points respectively, with scores of 19.4 and 27. However, other benchmarks were well down the ladder.

Biostar IDEQ 300G MCE-I

Specifications The IDEQ ticks off most, if not all, the major criteria. It has Intel's 915G with Socket 775 CPU support and a PCI Express 16x slot for graphics. In addition to two internal SATA hard disk connectors, an external SATA device can also be attached.

Connectivity is good (four USB 2.0 ports, two FireWire, Gigabit Ethernet and a 7-in-1 card reader), though not the best. But it's home entertainment where the box shines. The system has 7-channel audio out, front-mounted playback buttons, a remote and an Instant On feature for playing media files without booting into the OS.

Build A lot of thought has gone into the Biostar's design, with a flip-open top located at a right angle along the top of the unit, air paths through the system, and a cooling shroud. The CPU heatsink's

press-and-hold design is particularly easy to attach to the motherboard. During the test assembly an older, long optical drive wouldn't fit in the top-mounted bay. However, the Sony DRU-710A was accommodated with plenty of room to spare.

Cooling and performance This case has a cooling layout similar to Intel's new BTX platform design. The system was whisper quiet most of the time, only emitting an audible — though not intrusive — hum when under heavy load.

Benchmarks weren't spectacular but there were no poor results. Outpaced by the TriGem Kloss system in every test, the Biostar scored 20.3 and 26.8 in Business and Multimedia Winstones respectively, and a healthy 4,049 under PCMark04 thanks to the i915G chipset's onboard graphics.

MSI MEGA 865 Pro

Specifications Suitable as a lounge room unit, this Socket 775-based system supports an AGP 8x graphics adaptor, plus one standard PCI slot for add-on cards. The case can hold one hard disk drive and one optical drive, though there is no space for a floppy or additional hard drives.

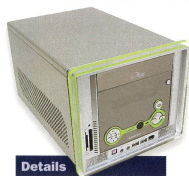
Connectivity includes six USB 2.0 ports, two FireWire ports, a 6-in-1 card reader, 56k modem, plus a 802.11b/g Wi-Fi module. It also includes a remote control, front-mounted audio visual controls and an Instant On feature.

Build This system has a tight build, and it's one of the trickiest to put together, as drives are held with screwless metal inserts. You have to lock the drives in using "feel" rather than visual clues. The cable

system has to be detached from the underside of the hard disk any time it needs to be removed, and repositioning them can make it difficult to close the swing-up drive trays. Integrated components are neatly laid out on the board, and should stay out of the way of longer graphics adaptors.

Cooling and performance The MSI MEGA 865 Pro is very quiet. The fan noise is unobtrusive unless the system's under a very heavy load — and only then was the fan noise noticeable, but not overly loud.

In the Lab, the MSI was neck and neck with the ASUS. It enjoyed a slight lead in PCMark04 with a score of 3,775, but the Business and Multimedia Content Creation Winstone results were slightly lower, with scores of 18.1 and 25.1 respectively.



Details

Contact	Westan
Phone	(03) 9541 8888
Online	www.westan.com.au
Price	\$629

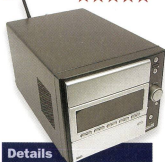


Instant On; external SATA connector.



Tight fit for optical drives; no Wi-Fi.

Verdict



Details

Contact	MSI Australia
Phone	(02) 9748 0070
Online	www.msicomputer.com.au
Price	\$599



Wi-Fi and modem; reasonably quiet.



Fiddly installation; only space for one hard drive.

Verdict



Keeping a mini PC cool

Cooling systems are a very important part of the design in small form factor systems. When dealing with limited space, proper air movement inside the case is important to stop components overheating.

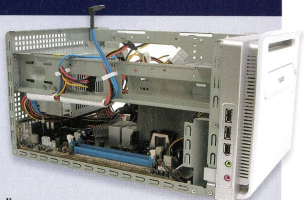
One example of innovative thinking is Shuttle's Silent X technology, which combines a cross-flow air path for the CPU with a low noise, high powered fan in the power supply for general air circulation. Shuttle's CPU heatsinks are built with heat pipes to draw heat away from the core of the CPU into an oversized radiator in close proximity to a large fan.

Shuttle isn't the only company with novel ideas for cooling mini PCs. Soltek's ICY2 technology keeps fans associated with the chassis, heatsink and chipset

coordinated to keep air efficiently flowing past hot components.

BTX-style designs are also appearing, many of which incorporate special air paths into the motherboard and CPU. The Biostar's IDEQ system is one which uses a BTX-like design, where cold air is drawn in from the front, over the CPU, then channelled over other hot components in the box.

Though unnamed, ASUS's cooling mechanism in the S1-P112 system draws cool air in from the side of the chassis and out the back. Though extremely effective, quiet it is not!



Cool as: BTX-style design counters the problem of so many components in a tight space.



Details

Contact	Altech Computers
Phone	(02) 9735 5655
Online	www.altech.com.au
Price	\$770

- ✓ Excellent drive bay design; great cooling design.
- ✗ Underwhelming benchmark results; no remote; no Wi-Fi.

Verdict ★★★★★



Details

Contact	Altech Computers
Phone	(02) 9735 5655
Online	www.altech.com.au
Price	\$630

- ✓ Excellent performance; extremely quiet; Wi-Fi.
- ✗ Hard drives may need extra cooling; no card reader.

Verdict ★★★★★

Shuttle SB95P

Specifications The Shuttle is the only Intel 925X Socket 775 system here. The system accepts DDR2 memory and has a PCI Express 16x graphics slot, plus an extra PCI Express 1x expansion slot. You can fit up to three 3.5in drives as well as a full-sized optical drive. It's also the only system without video built in, so you'll have to fork out for a graphics card.

Connectivity is relatively standard, with six USB 2.0 ports and two FireWire and an 8-in-1 card reader. The only let-downs are the lack of remote control and wireless functionality.

Build With three hard drives installed, this system is a tight fit. However, everything can be managed without ever picking up a screwdriver as all drive installation is tool-free. The CPU cooler uses a screw-down attachment method: removable drive

tracks and sliding rails make getting drives in and out easy. Full-size video cards can be fitted, but be wary of double-width cards as they are likely to impede the installation of other components in the case.

Cooling and performance A cross-flow air design, with extraction through the power supply and separate ventilation for the drive bay areas, keeps the system cool and quiet. The heat pipe-riddled CPU cooler boasts an oversized radiator.

Under graphics tests the Shuttle blew away the opposition, mainly because it requires a dedicated graphics card (the other systems in this roundup all have onboard video). In Business Winstone and Multimedia Content Creation Winstone, the SB95P scored 20.5 and 25.7, in each case being beaten by the other Intel 9XX systems.

TriGem Kloss KL-I915A

Specifications This is the first ever TriGem Kloss system reviewed by APC Labs, and it's impressive. The system is based on an Intel 915G chipset with a Socket 775 and a PCI Express 16x slot for graphics. The system has room for a floppy disk drive and a hard disk, or two hard disks plus an optical drive.

There are five USB ports, two FireWire ports and Gigabit Ethernet. The unit also includes a remote control and, like the MSI MEGA 865 Pro, has wireless 802.11b/g functionality. The front display includes media playback controls and CPU clock speed, temperature and disk space.

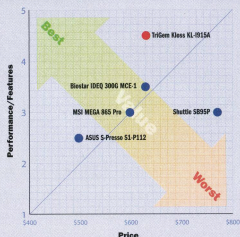
Build The TriGem is the largest system in this roundup due to its unique dual-level design, but this does have advantages. The motherboard tray, CPU

and add-on cards sit in the upper level of the system, eliminating cable clutter that can impede airflow. There are no power cables for high-end video cards in the upper section, but they can be routed up.

Cooling and performance When it comes to cooling and performance, the TriGem excels. An intake on the top of the case feeds cool air directly on to the CPU. Warm air is extracted from the case by a rear fan. The system is extremely quiet, and would satisfy even the most noise-sensitive home theatre buff. Note that speedy drives could require an extraction fan on the bottom level.

The Kloss performed well in all but the graphics, scoring 4,111 in PCMark04 and 21.5 and 30.3 in Business and Multimedia Winstones respectively.

apc price-to-performance ratio



The TriGem Kloss KL-I915A took first place due to impressive benchmark results, a design that makes components easy to install, and low fan noise. It also achieved the top scores in Business and Multimedia Winstones. Some unique features give it an edge, including a double-decker design which keeps PCB components very cool, though disk drives may need a helping hand. The front panel displays system specs and the remote control integration with the provided software is excellent.

The Biostar is a solid system with its Intel's 915 chipset, card reader, 7-channel audio, Instant On and an external SATA connector.

The best value PC is the MSI 865 Pro, although it's not without its quirks. Choose a video card and optical drive carefully, as space is tight.

The ASUS would make a good no-frills system for a gamer, but be warned — it's very loud. The Shuttle SB95P had average benchmark results, possibly due to the DDR2, and though the design is good it lacks Instant On or a remote.





The Way of **Your Life Style**

POWERNOTE CL56

The PowerNote CL56 features a spectacular 15.1" 1400 x 1050 Ultra Sharp display, with best-in-class ATI Mobility Radeon 9700 graphics, making it the most fully featured total mobile solution for work and play.

PowerNote CL56 Impressive Value

- Build to Order \$2299**
- Intel® Centrino® Pentium®-M 735 1.7GHz, 2Mb Cache, 400MHz FSB
 - 15.1" SXGA+ LCD 1400 x 1050
 - 512Mb RAM, 80Gb Hard Disk
 - 128Mb ATI Mobility Radeon 9700
 - 4X SuperMulti DVD-±RW
 - Free USB Bluetooth Adapter
 - Microsoft® Windows® XP Home
 - 1 Year On Site Pick Up Warranty*

PowerNote 2591A Elite Mobility

- Build to Order \$2599**
- Intel® Centrino® Pentium®-M 1.8GHz
 - 15.4" WXGA 1280 x 800
 - 1Gb DDR 333MHz RAM
 - 80G 5400 rpm Hard Disk
 - 256Mb ATI Radeon 9700
 - 8X Dual DVD-±RW DVD Burner
 - Intel Pro wireless 802.11b/g 54M
 - Microsoft® Windows® XP Home
 - 1 Year On Site Pick Up Warranty*

PowerNote 2585A Award winning power

- Build to Order \$2299**
- Intel® Pentium® 4 CPU 3.2GHz
 - 15.4" WXGA 1280 x 800
 - 1Gb DDR 400MHz RAM
 - 60G 7200 rpm Hard Disk
 - 128Mb ATI Radeon 9600 Pro
 - DVD-CDRW COMBO Drive
 - Free USB Bluetooth Adapter
 - Microsoft® Windows® XP Home
 - 1 Year On Site Pick Up Warranty*



"Absolutely blitzing the field for performance, no other notebook could get anywhere near..."

PC Authority 07/2004



"Performance is blitting..."

PC World 08/2004

buildonline

Custom Build your perfect notebook on line !



PowerNote 1551AW \$1899

- Microsoft® Windows® XP Home
- Microsoft® Office® 2003 Basic
- Intel® Mobile Celeron®-M 340 1.5GHz
- 12.1" Wide Screen LCD 1280 x 800
- 256Mb, 40Gb Hard Disk, COMBO



PowerNote 258KA \$2599

- Microsoft® Windows® XP Pro
- AMD® Mobile Athlon® 64 3400+
- 15.4" WXGA, 128Mb ATI 9700
- 1Gb, 80Gb HDD, 8x DVD-±RW
- 1 Year On Site Pick Up Warranty*



PowerNote D870P from \$3699

- Microsoft® Windows® XP Pro
- Microsoft® Office® 2003 Basic
- 17" 1680 x 1050 Super Glossy LCD
- 256Mb ATI Mobility Radeon 9700
- Built in TV Tuner, WebCam, Wi-Fi, Bluetooth, Dual Hard Disk RAID

Digital Star recommends Microsoft® Windows® XP Professional for business

DIGITALSTAR

1800 800 628 www.digitalstar.com.au

* DigitalStar's terms and conditions of sale are applied and are available on request. Prices, specifications and availability subject to change without notice. All brands and product names are trademarks of their respective companies. Product pictures for illustrative purpose only. All systems backed by 1 Year Return to Base Warranty unless purchased with extended warranty. On-site pick up service not available in some remote locations. Rental terms and conditions applied.

Do Amazing Things
On your new PC.





Small form factor barebones PC specifications

				★ Editor's Choice	
Model	ASUS S-Presso S1-P112	MSI MEGA 865 Pro	BioStar IDEQ 300G MCE-I	Trigem Kloss KL-I915A	Shuttle SB95P
Price	\$449	\$599	\$629	\$630	\$770
Chipset	Intel 865G	Intel 865G	Intel 915G	Intel 915G	Intel 925X
Frontside bus (MHz)	800	800	800	800	800
DIMM slots	2	2	2	2	2
PCI slots	1	1	1	1	1 PCI Express
AGP slot	1	1	1 PCI Express 16x	1 PCI Express 16x	1 PCI Express 16x
External 5.25in (optical) bays	1	1	1	1	1
External 3.5in bays (floppy, doubles as internal HDD)	0	0	0	1	1
Internal 5.25in bays	0	0	0	0	0
Internal 3.5in (HDD) bays	1	1	2	1	2
IDE connectors	2	2	1	2	1
SATA connectors	2	2	2	2	4
Audio codec	ADI AD1888/5.1	RealTek 658/5.1	CM19761A/7.1	Cmedia 9880/5.1	RealTek ALC880/7.1
Audio jacks	Headphone, line in, line out, microphone	Audio in, audio out, SPDIF out	Microphone, headphone, line in, line out, SPDIF optical out	Headphone, microphone, line in, line out, SPDIF in/out	Microphone, headphone, 8 channel, SPDIF in/out, coaxial
Onboard video	✓	✓	✓	✓	✗
Video outputs	✗	✗	✗	✗	✗
Ethernet	10/100	10/100	Gigabit Ethernet	Gigabit Ethernet	Gigabit Ethernet
Front mounted ports (except audio)	2 x USB 2.0, 2 x FireWire	2 x USB, 2 x FireWire	2 x USB 2.0, 1 x FireWire	2 x USB 2.0, 1 x FireWire	2 x USB 2.0, 1 x FireWire
Rear mounted ports (except audio)	VGA, Parallel, 2 x PS/2, 4 x USB 2.0	4 x USB, Serial, VGA, 2 x PS/2	VGA, Serial, 2 x USB 2.0, 2 x PS2, 1 x FireWire, 1 x SATA, SATA Power	3 x USB 2.0, 1 x FireWire, Serial, Parallel, 2 x PS2	4 x USB 2.0, 2 x PS2, FireWire, Serial
Remote control	✗	✓	✓	✓	✗
Wireless	✗	802.11b/g	✗	802.11b/g	✗
Power supply rating (W)	220W	250W	250W	250W	350W
Number of internal power connectors	3	3	3	4	5
Case fans	3	1	2	2	4
Bundled software	Trend Micro Internet Security 11	MSI Instant On, MSI Theatre III	Norton Internet Security 2004, Norton Ghost 2003	CyberLink Power2Go 3	Trend Micro PC-cillin 05, MuVee Autoproducer 3.1
Warranty	1 year	1 year	1 year	1 year	1 year
Additional	7-in-1 card reader	AM/FM radio, 6-in-1 card reader, 56K modem	AM/FM radio, 7-in-1 card reader		8-in-1 card reader
Benchmarks					
3DMark01 SE Pro	2,891	2,908	5,281	5,629	15,680
3DMark03	134	131	1,354	1,416	7,930
Halo (fps)	28.6	29.97	19.38	19.7	59.46
Business Winstone 2004	19.4	18.1	20.3	21.5	20.5
Multimedia Content Creation Winstone 2004	27	25.1	26.8	30.3	25.7
PCMark04	3,684	3,775	4,049	4,111	4,287

FREE

44-PAGE MANAGED FUNDS BOOKLET

with this month's issue:



ON SALE NOW



Desktop search tools

Want to find crucial files and email quickly? David Emberton tests the latest crop of desktop search tools for Windows.

How we tested

Each app was installed and set up separately on a single test machine loaded with a variety of test files. Once the contents of the hard drive were indexed, we searched for specific Word documents, multimedia files (JPEG, GIF, MPEG, REAL, QuickTime, MP3, WMA and Flash), PDFs, Excel files, ZIP files, email messages and attachments in Outlook, plus Lotus Notes, while playing attention to the interface and features. Each application was uninstalled after testing.

As the storage capacity of an average PC balloons, it becomes harder to find things in a hurry.

Windows includes a file searching facility, but it's slow and doesn't look inside documents to find phrases or ideas. Microsoft is working on a new file system to run more like a database, but it's still a long way off. In the meantime, there are plenty of add-on apps to pick up the slack.

The tools reviewed here are superior to Windows' Search function in a number of ways. They're a lot faster because they index a drive's contents, creating a record of all the files on a disk and their attributes. This way, files can be searched by name, producing results almost instantaneously. Content-indexing goes one step further, tracking words and phrases used in supported file types. Better apps can content-index a wide variety of formats such as ZIP and PDF files, but the baseline is Office documents and Outlook email.

File previewing is another feature. Google Desktop Search displays a few sentences from a document, while Yahoo! Desktop Search shows

the entire file in a preview pane. Some applications show a complete file list upfront, whereas others, like Microsoft's MSN Toolbar Suite, display nothing until a query is applied.

Most tools in this roundup are still in public beta testing. For this reason, we've decided to make this the debut of a new Labs Challenge format — the Beta Challenge. The main difference is that the best product receives a Most Promising award, rather than an Editor's Choice award, which is reserved for regular roundups only.

VERDICT

Google has ignited interest in desktop search, but its effort isn't a standout. Some users will appreciate the familiarity and simplicity, but standalone search programs are better than browser-based products, particularly for previewing media files and email.

Copernic Desktop Search and iSYS:desktop have unique features, but aren't for everyone. Copernic is best suited to those who need to track their online activities. iSYS is the only product that can scour databases such as SQL and Lotus Notes.

The Most Promising award goes to Yahoo! Desktop Search. Okay, so Yahoo! licensed an existing product and changed its look, but that doesn't diminish the tool itself. With the best interface and mix of supported file types, this application easily beats the other big names in search.

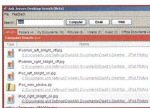
Ask Jeeves Desktop Search (Beta) 1.7.0

The most basic search tool in this roundup, Ask Jeeves Desktop Search works as a standalone application and not in a browser. The interface's preview pane and upfront file list are similar to those in Yahoo! Desktop Search, but it lacks search-as-you-type functionality. Search is offered in either Computer or Mail mode (they can't be used together) and there are no advanced query options.

Ask Jeeves can read Office 2000+ documents and email, but it won't generate a contextual preview or even highlight the search terms

you've used, which is disappointing. All files searched for in Office and email formats were indexed successfully — unlike in the more advanced iSYS:desktop and Google Desktop Search programs. However, ZIP, QuickTime, Real Media or PDF files aren't recognised at all. Web indexing is limited to Internet Explorer Favorites.

Ask Jeeves' indexing control is different to other tools in this Beta Challenge in that it works independently of computer activity and comes in two speeds, Fast and Gradual. Index creation is automatic, although you do get a basic choice of folder locations and Outlook profile.



Details

Contact	Ask Jeeves
Status	Beta
Online	http://sp.ask.com/docs/desktop
Price	Free
✓	Dual-speed indexing.
✗	No context snippet or highlighting.
Verdict	★★★★☆

Copernic Desktop Search 1.2.0.519

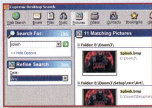


Copernic Desktop Search is the best choice for Web heads. It's the only app here that searches browser history and bookmarks, not just for IE but also Netscape, Mozilla and Firefox. It's a standalone application which also features extensive preference settings.

Like MSN Toolbar Suite, Copernic includes a Deskbar. It's pretty useless though, providing no actual search results in its pop-up menu. The main application has tailored result screens for various file types, but oddly, can't search all files at once. Like Yahoo! Desktop Search, files are searchable by complex query and attributes.

Previewing is unimpressive, especially compared to Yahoo's offering. Images, email and document screens include a "Quick Preview" but videos and MP3s have to be opened separately. Uniquely, results are grouped by date and folder, making them easier to read. It recognises PDFs, but not ZIP archives. Search-as-you-type is included, but it suffers from an annoying delay.

Copernic Desktop Search's indexing control is slightly better than Yahoo's, including browser data, but overall the search facility isn't as useful.



Details

Contact	Copernic
Status	Final
Online	www.copernic.com
Price	Free
✓	Bookmarks and history search.
✗	Can't search all files at once.
Verdict	★★★★☆

Google Desktop Search beta

Google's Desktop Search interface works just like Google's Web site. It runs through a browser like MSN Toolbar Suite, but doesn't rely on IE.

You can start a simple or Boolean search by double-clicking the app's system tray icon. Matches are presented as hyperlinks, sorted by relevance. For files that Google can cache, a text snippet shows the query terms in context to help you choose a result.

Despite Google's exceptional reputation, it's not a standout on the desktop when it comes to features. Google is one of the few searches



Details

Contact	Google
Status	Beta
Online	http://desktop.google.com
Price	Free
✓	Familiar, easy to setup and use.
✗	Limited controls and file support.
Verdict	★★★★☆

to expose Web browser history, and the only one to index AIM chats. But it can't read PDF, ZIP or MP3 track tags, whereas Yahoo! Desktop Search can do all three.

Email messages are previewed in the browser, but all other files are handled by their native apps.

Indexing is performed automatically, with limited user control. Files are scoured only when the computer is idle, and no scheduling options are offered. The program makes it easy to remove any unwanted items from the index, but unlike Copernic Desktop Search or ISYS:desktop, it doesn't allow a choice of search locations or mail folders.

Microsoft MSN Toolbar Suite beta

Microsoft's Desktop Search is part of the MSN Toolbar suite. It runs in a Web browser and is a step up from Google Desktop search, but relies solely on Internet Explorer. The added features, such as live result sorting and animated menus are nice too.

MSN's search function can be activated in more ways than any other, offering toolbar buttons in Outlook, IE and Explorer as well as a Deskbar and keyboard shortcuts. Advanced query syntax is available, but the contextual highlights aren't as Google's.



Details

Contact	Microsoft
Status	Beta
Online	http://toolbar.msn.com
Price	Free
✓	Search-as-you-type Deskbar.
✗	Requires IE; weak previewing.
Verdict	★★★★☆

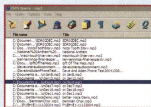
Browser histories aren't searchable for privacy reasons (annoying if you're the only user), but IE Favorites are indexed. Thumbnails of images and MPEG movies are provided, but that's about the extent of MSN's previewing abilities. Only the Deskbar offers search-as-you-type — a weakness shared by Google, Ask Jeeves and ISYS:desktop.

Indexing control is better than Google's but still rudimentary compared to others. You can choose which folders to index and whether email and attachments get indexed, but that's about it. The indexing is automatic, running whenever the computer is idle.

ISYS:desktop 6

ISYS:desktop is in a league of its own when it comes to business search, and it was used as a benchmark by which to compare the other apps in this roundup. It's a suite of programs rather than a single app, and offers language tools such as "synonym rings" that the others can't match. The interface is vintage Windows, however, and takes some getting used to.

ISYS Query, the search component, certainly isn't as slick as Yahoo! Desktop Search. However, it has more query options, including menu-assisted complex search, search agents, and even plain English. ISYS is



Details

Contact	ISYS Search Software
Status	Final
Online	www.isys.com.au
Price	\$693
✓	Language analysis tools; nested searches.
✗	Arcane interface; manual indexing.
Verdict	★★★★☆

the only tool in this roundup with the ability to search within a search.

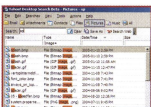
Query's contextual highlighting shows every hit in a document rather than just one or two. File previewing occurs in a separate window, which is cumbersome compared with Ask Jeeves' and Yahoo's apps, MP3s, Flash and PDFs can all be indexed, but image searching is nonexistent.

Indexing is where ISYS:desktop shines. It can index documents, email, as well as FTP shares, Lotus Notes databases and SQL. Indexes are created manually, and have to be programmed to update themselves, making them better for power use than casual search.

Yahoo! Desktop Search Beta

This custom-branded version of X1 Technologies' search application is strong across all testing criteria. The standalone interface is compact and smart, combining an upfront file listing with a movable preview pane, predefined filters and as-you-type term highlighting.

Yahoo! is unique in that it lets you press different keyboard short cuts to search for all the various file categories, but it's not quite as handy as MSN Toolbar Suite's multiple toolbars and Deskbar. Email messages



Details

Contact	Yahoo!
Status	Beta
Online	http://desktop.yahoo.com
Price	Free
✓	Best mix of file support; advanced options.
✗	No Deskbar access.
Verdict	★★★★☆

and documents can be searched together, using simple or advanced queries and file attributes.

With content indexing of 22 formats and previewing of 200, Yahoo! has the best overall search mix. It's the only app in this roundup that recognizes MP3 track tags, can read PDF contents and scan ZIP files, though it doesn't touch Web history or bookmarks. Mail preview is spot on, with messages appearing just as they would in Outlook.

Index control is competent, with advanced scheduling and an option to index email attachments. It's easy to configure, and can be forced to index the contents of any file type.

Professional help

Professional help from our experts — James Bannan, David Emberton, Matthew Overington, Nick Race, Paul Schnackenburg and David Williams



Bonus DVD software

Offline NT Password & Registry Editor • Emergency Boot CD • Belarc • Autoruns • ThrottleWatch 2.0 • CDBurnerXP Pro 3 • Memtest86 3.2 • DivX 5.2.1 (Installer) • XviD 1.03 (Installer) • Ogg Codecs/Ogg DirectShow Filters • Stinky's MPEG-2 Codec • QuickTime Alternative • Real Alternative • Virtual VCR — v2.6.9 • Boingo • Wireless • Ethereal 0.10.9 • Wellenreiter 1.9. All scripts in these programming solutions are available on the DVD — look up Programming Scripts for APC cover story in the DVD index.

Problem? Solution!

Computing regularly throws up challenges that stump even the experts. APC's technical writers have identified some of the more common PC and programming problems and found the solutions for you.

Windows

PROBLEM If a PC user in a server environment loses their password, it can always be reset by the administrator. But how do you reset or retrieve a lost password on a local machine? And worse, what if the administrator has forgotten the only administrative password in the domain?

SOLUTION You can reset passwords in local machines and administrative passwords in domains by following the steps outlined below. There's even a way of retrieving lost passwords. But a word of warning before you start resetting passwords: if you use Encrypting File System (EFS) in Windows and reset a password using these methods, any encrypted files will be unreadable unless recovery keys are backed up or the domain environment has designated recovery agents.

RESETTING PASSWORDS ON A LOCAL MACHINE
Winternals ERD Commander (www.winternals.com)

/products/repairandrecovery/erdcommander2002.asp?pid=erd) is the program of choice for IT professionals when resetting local passwords. However, it costs US\$149.

The Offline NT Password & Registry Editor (on this month's cover DVD) is a Linux-based boot disc specifically designed for password resets for Windows and other platforms. It boots a Windows system into a Linux utility which analyses the system and modifies the files where the passwords are stored. You'll need to create a boot disc using the ISO file provided (see "How to create a boot disc from the Offline NT Password & Registry Editor ISO file" on page 82).

Insert the Offline NT Password & Registry Editor boot disc in the CD drive, making sure the PC can boot from this drive. Reboot the system and a Linux utility will start. The Linux utility identifies the disk partitions and asks you to select the partition using the Windows installation, where the Windows system is located, and the path to the registry directory.

In most cases, the utility's default selections are correct (the only complication will be if you have a SCSI hard disk), so just keep pressing Enter until you reach Step 3: Password Reset menu (see 1).

Select the appropriate password to reset, which in most cases is the default, Administrator. Then go for the blank password option (*) rather than a setting a new one.

Quit the Step 3 menu and go to Step 4: Writing Back the changes and confirm the changes.

Of course, no two systems are the same. The developer of Offline NT Editor warns that things can go wrong, though it stresses that most faults won't damage your system: "The most critical moment is when writing back the registry files to NTFS. The file written back may be corrupt (from chntpw messing it up), preventing the NT system from booting properly. One indication of a corrupt SAM is that the Netlogon service will fail to start, meaning it's impossible to log in. Or it will simply just reboot forever." Get more information at <http://home.eunet.no/~pnordahl/ntpasswd/bootdisk.html>.

```
* SAM policy limits:
Failed logins before lockout is: 0
Minimum password length      : 6
Password history count       : 6

(>)=====(<) chntpw Main Interactive Menu (>)=====(<)
Loaded hives: {sam} {system} {security}

1 - Edit user data and passwords
2 - Syskey status & change
3 - RecoveryConsole settings
4 - Registry editor, now with full write support!
5 - Quit (you will be asked if there is something to save)

What to do? [1] ->

===== chntpw Edit User Info & Passwords =====
RID: 01f4, Username: {Administrator}
RID: 01f5, Username: {Guest} *disabled or locked*
RID: 02ef, Username: {SMSC115uabota}
RID: 0370, Username: {SMSC115oknLocalAcct}

Select: ! - quit, * - list users, 0x{RID} - User with RID (hex)
or simply enter the username to change: {Administrator} -
```

1 When you reach the Password Reset menu, select the appropriate password to reset.

PREVENTION

Windows XP actually offers built-in protection against forgotten local passwords. Go to Control Panel > User Accounts. Select the account you want to protect, click Prevent a Forgotten Password and follow the prompts to create a floppy disk. At the welcome screen, select your username, click the question mark and follow the prompts to use your password disk if you need to.

RESETTING ADMINISTRATIVE PASSWORDS

Resetting local passwords is one thing, as the tools above demonstrate. But if a domain controller and all administrative passwords are lost, more elaborate resetting methods are required.

In a Windows 2000 domain, follow these steps:

- 1 If you have the Local Administrator password (not the Domain Administrator password) proceed to step 2. If not, use one of the previous methods to reset the Local Administrator password.
- 2 Restart the computer. Press F8 when the BIOS screen has completed and select Directory Services Restore Mode.
- 3 Use the Local Administrator password to log in (AD isn't started in DS Restore mode).
- 4 Start Regedit and find HKEY_USERS\Default\Control Panel\Desktop. Record the current settings and then set the following values for these keys: SCRNSAVE.EXE to cmd.exe, ScreenSaveTimeout to 15 and ScreenSaveActive to 1.
- 5 Restart the server. Just wait when the login box appears. A command prompt should appear after about 15 seconds, since this is the new screensaver. Type in MMC DSA.MSC, which should start AD Users and Computers. The Domain Administrator password (or any other AD password) can now be changed.
- 6 Once you have successfully logged in, use Regedit to reverse the changes in step 4.

WINDOWS SERVER 2003

This method doesn't work in Windows Server 2003 — some of Microsoft's efforts to increase security have paid off — so it's necessary to use a couple of tools from the resource kit. To reset a password in Windows Server 2003:

- 1 Download the Windows Server 2003 Resource Kit Tools from www.microsoft.com.

- 2 Run the file to install the tools.

3 Restart the domain controller in Directory Services Restore Mode and log on with Local Administrator credentials. Create a temporary folder (c:\temp) and copy SRVANY.EXE and INSTSRV.EXE from the Resource Kit Tools to this folder, along with CMD.EXE from \Windows\System32.

- 4 Start a command prompt, go to c:\temp, type `instsrv PassRecovery "c:\temp\srwany.exe"`.

5 Start Regedit and go to HKEY_LOCAL_MACHINE\System\CurrentControlSet\Services\PassRecovery, create a new subkey called Parameters and add two new values:

name: Application; type: REG_SZ (string); value: c:\temp\cmd.exe

name: AppParameters; type: REG_SZ (string); value: /k net user administrator newpassword /domain.

Replace newpassword with the new password. If your domain password policy demands strong passwords, be sure to use a combination of both upper and lower case letters and numbers.

- 6 Go to Services in Computer Management and open the PassRecovery properties tab, making sure starting mode is Automatic.
- 7 Restart Windows normally. SRVANY will run the Net User command and automatically reset the Domain Admin password before the login prompt even comes up.
- 8 Once successfully logged on, you need to uninstall SRVANY. Type `Net Stop PassRecovery sc delete PassRecovery` at a command prompt and then delete c:\temp.

Get more information at www.petri.co.il. For Linux passwords, see "How do I edit the password files in a Linux system?" on page 94.

RECOVERY OF PASSWORDS

So far we've covered ways of resetting passwords. There are also password cracking services on the Net to help recover lost passwords. One is <http://xpcracker.mine.nu>. It worked fine in testing, but does take some time to successfully crack a password. It won't work if a password has spaces or symbols in it; it also takes a very long time to crack a

passphrase rather than a short password.

RECOVERY OF PRODUCT KEYS

The recovery of serial numbers of product keys is not as complex as recovering passwords. At one time or another, most people have needed to reformat the hard drive and reinstall software but have been unable to find the necessary serial number or product key without the original packaging.

Belarc (on this month's cover DVD) creates an inventory of your machine, including product serial numbers. Just run it once the

Software License	
Adobe - Illustrator	00000000000000000000000000000000
Adobe Systems, Inc. - Adobe Illustrator CS	00000000000000000000000000000000
Adobe Systems, Inc. - Adobe Photoshop CS	00000000000000000000000000000000
Belarc - Advisor	00000000000000000000000000000000
Microsoft - Flash	00000000000000000000000000000000
Microsoft - Internet Explorer	00000000000000000000000000000000
Microsoft - Office 2000 Premium	00000000000000000000000000000000
Microsoft - WordPad XP	00000000000000000000000000000000
Microsoft - Windows XP Professional	00000000000000000000000000000000

Quick scan: Belarc creates an inventory of your PC, including application product keys.

Also . . .

80 Windows

Password recovery, autostarting program removal, and XP SP2 help.

83 Boot and installation

Creating bootable USB keys and migrating data between drives.

83 Hardware

Hardware detection, random rebooting and errors, plus USB key issues.

85 Web

Editing Flash animation.

86 Multimedia

Identifying AVI video codecs and transferring VHS video to DVD.

88 Networking

Increasing wireless network signal strength and securing a wireless connection.

90 Programming

Managing exceptions in ASP.NET, gaining responses from busy apps, command line parameters, conditional formatting in ASP.NET and LotusScript.

► file is downloaded. It presents an HTML report in your browser listing all hardware and software including product keys.

PROBLEM I've tried to use MSConfig to get rid of autostarting programs which slow my PC down, but it doesn't seem to find them all. How can I locate and eliminate them?

How to...

... create a boot disc from the Offline NT Password & Registry Editor ISO file.

1. Copy the ISO file cd041205.iso from the cover DVD onto your computer (find it in Offline NT Password & Registry Editor link in Power Kits or Index).
 2. Fire up CDBurnerXP Pro 3 (also on the cover DVD). Select the top option, which includes "burn an ISO image", and insert a blank CD-R into your CD burner.
 3. When the program opens, go to File > Write Disc from ISO file.
 4. An ISO burning dialog box comes up. Navigate to the location of the stored ISO file and click OK.
 5. Click the Use Buffer Protection and Finalize Disc options, then select the Writing speed. A lower speed ensures fewer errors.
 6. Finish by clicking Write Disc. Note that recording the ISO file to the CD-R is not the same as simply copying the file. This is a special procedure that unpacks the ISO to the blank disc and recreates the exact structure of the program's original disc.
- If the file is successfully recorded to the blank CD-R, the CD will show a series of files and directories. If the ISO has merely been copied to the CD, you will see a file with the same name as the original ISO file.

SOLUTION MSConfig has limitations — it doesn't check all registry locations for hidden programs and doesn't give much information regarding the programs it does find. Also, MSConfig isn't available for Windows 2000 or NT 4.

Autoruns, a freeware program from Sysinternals (available from www.sysinternals.com), remedies all of the above limitations in MSConfig. Once installed, Autoruns displays every startup program in its main window. Each section is processed at startup from top to bottom so you can track conflicts between different autostarting programs.

Programs are listed with information about the application in each registry section. The ones listed as (Not verified) are mostly non-Microsoft, unsigned applications. You can filter the view to show only these (View > Hide Signed Microsoft Entries). You can also choose to see services and Windows Explorer add-ons under the View menu.

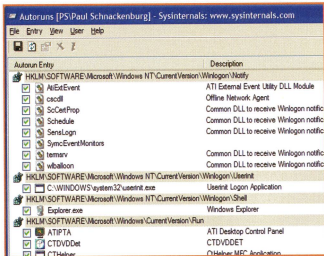
If you need more information about an individual entry, right-click and choose its properties. Double-clicking an entry starts the registry editor at that entry. Hitting Ctrl+G starts a Google search on that particular entry.

Autoruns lets you save all of its output as a text file. As with MSConfig, you can temporarily disable an entry for troubleshooting purposes by unchecking the appropriate box. Alternatively, delete an entry permanently by pressing Ctrl+D.

PROBLEM Ever since I installed XP SP2, I've had problems with the Windows Firewall. How can I monitor what it's doing and manage it from a central point?

SOLUTION If you're having trouble with the firewall, enable Logging at the Advanced tab. This allows you to see what's being stopped by the firewall as well as all successful connections. Depending on the amount of traffic, you might have to set a larger log file size than the default 4MB.

To control Windows Firewall centrally with Group Policy you must first install SP2 on at least one PC. On that computer, log on as a Domain Administrator.



Find hidden programs: with Autoruns you can track all autostarting programs.

Start a new MMC, add in the Group Policy Object Editor, then browse for the GPO in the domain where you want to set Firewall settings.

In this Group Policy, go to Computer Configuration > Administrative Templates > Network > Network Connections > Windows Firewall. Every option the firewall offers can be set here. Be aware that if you access to a particular setting, even a Local Administrator sitting at a client computer won't be able to change those settings and they will be greyed out in the user interface.

The Windows Firewall operates in two modes: Domain and Standard. It automatically selects between these based on whether the client is logged on to the network or not. In the Group Policy interface, you can set individual settings for each profile. Domain is normally configured with more lax settings, as the computer is protected by a company firewall. However, Standard is the profile laptops use when not connected to the network, and these settings should correspondingly be stricter.

The Windows Firewall is also managed via command prompts. On a Windows XP SP2 computer, start a command prompt and type in **Netsh firewall**. Next, type in **Show Allowedprogram**. This should bring up a list of all the programs on the computer's exceptions list. The main command to use in Netsh firewall is **Show**; it provides a list of all the different options and their current settings. The other two commands are **Add** and **Set**; both are used to configure firewall options. Finally, use **Reset** to bring the firewall back to installation defaults.

PROBLEM I've had nothing but trouble ever since I installed Windows XP Service Pack 2. How can I roll back the system and get rid of it?

SOLUTION If your Windows system boots normally, go to Add/Remove Programs in the

Control Panel, select SP2 and uninstall it. If Windows doesn't boot normally, the next step is Safe Mode. Reboot and press F8. Choose Safe Mode in the menu and uninstall SP2 from the Control Panel.

But what if Windows doesn't boot, even in Safe Mode? Recovery Console comes to the rescue here. Grab the Windows installation CD and reboot the computer. When Welcome to Setup appears, press R to start the Recovery Console.

Log on with the Administrator password, type in `cd %ntservicepackuninstall%` and press Enter.

Type `batch spuninst.txt` and press Enter. This process will take some time; you'll see numerous errors flash past — this is normal. Type `Exit` to get out of the Recovery Console. Restart in Safe Mode. Explorer won't run, so you won't see any icons or the Start Menu. Press `Ctrl+Alt+Del` to start Task Manager, click `File > New Task and type regedit`.

Next, find `HKEY_LOCAL_MACHINE\System\CurrentControlSet\Services\RpcSs` and click on it. Right-click on `ObjectName`, click `Modify`, type in `LocalSystem` in the Value box and then click OK. Restart the computer and you should be able to boot normally. You still need to go to `Add/Remove programs` to complete the uninstallation of SP2.

System Restore can also be used to remove SP2. You'll find it under `Start > All Programs > Accessories > System Tools`. Click `Restore my computer to an earlier time` and click `Next`. Select the right date and select the restore point called `Installed Windows XP Service Pack 2`. Click `Next` and follow the instructions.

The installation program for SP2 creates a couple of useful log files that can be helpful for hunting down the cause of any problems. There are three logs in the Windows folder: `svcpack.log` (essentially a diary for each step that SP2 completes); `setuplog.txt` (a list of the devices detected); and `setuperr.log` (a log of

any errors found). `Setuperr.log` should be empty if there were no errors in installation.

If SP2 is working well and you're sure you want to keep it, free up some disk space by deleting the following folders in the Windows folder: `ServicePackFiles` (the source files) and `$NtServicePackUninstall$` (only necessary if you need to uninstall SP2). A fairly large restore point will have also been made. As soon as an ordinary restore point has been created, you can run `Disk Cleanup` and elect to delete all but the most recent restore point.

PROBLEM I just can't seem to get Windows Update version 5 working in our Microsoft Small Business Server network with Windows XP Clients.

SOLUTION With an XP client in a SBS 2000/2003 network, the first time a manual Windows Update is run, it reports that it has to download two updates to make the new Windows Update work. However, after it downloads these, the installation fails and Windows Update doesn't work.

To fix this, go to Microsoft knowledge base article (<http://support.microsoft.com/default.aspx?scid=kb;en-us;842773>). There you'll find the two updates — BITS 2.0 and WinHTTP 5.1 — rolled into one, KB 842773, which you download and run separately from Windows Update. Reboot and Windows Update should work normally.

Boot and installation

PROBLEM I want to copy a set of tools onto a bootable USB key that can be taken from PC to PC. Is it possible to make a USB flash drive bootable?

SOLUTION First, check the Web sites of the motherboard's and USB key's manufacturer's to ensure that each supports

USB booting. Not all motherboard BIOSes or USB keys do. Many vendors of USB keys include small utilities to make the key's software bundle.

Manually installing a boot image on the USB key is a little tricky and involves creating a boot image, saving it to a file, then writing it

to the USB key, along with some boot files.

One way is to create a bootable floppy. Insert a blank disk in the drive and navigate to My Computer. Right-click the floppy icon and select `Format`. Click on the `Create an MS-DOS startup disk` box and Windows will transfer the necessary files.

The next step is to transfer the bootable image to a USB memory key. Thankfully, HP provides a tool for just such a service at <http://h18007.www1.hp.com/support/files/hpcpqdt/us/download/20306.html>.

Install the application and point it towards either the floppy drive or the folder you decompressed the boot file archive to. The utility automatically transfers the boot image to the memory key.

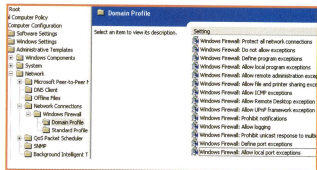
The final step is to set the boot order in the BIOS so that the computer reads the USB drive before optical drives or the hard disk. The option will generally be found under a `Boot` heading within the BIOS. Toggle the option so that the next time the computer starts with the key in the drive, the BIOS boots directly from it. One way to further enhance the functionality is to copy a number of tools directly onto the key to enable you to work at any machine.

PROBLEM I've bought a hard disk that's newer and faster than my current system drive. I want to use the new drive as a boot/system disk. Is it possible to transfer the contents of the old drive without reinstalling Windows from scratch?

SOLUTION The simple answer? Avoid it. Migrating Windows from one disk to another on the system is a sure-fire way to be chasing after glitches for months. Instead, use the Microsoft Files and Settings Transfer Wizard (FSTW) to back up the settings of one machine to a safe location, dropping in the new drive, formatting it, installing Windows from scratch (along with any driver and software updates), and then migrating the settings back across. More information can be found at Microsoft's FSTW support page: <http://support.microsoft.com/default.aspx?scid=kb;en-us;293118>.

Hardware

PROBLEM I'm unable to get the Windows installation application to accurately detect my Serial ATA hard disk or RAID array during installation. Though the installation application seems to



Keeping Windows safe: options offered by the Firewall can be set here.

work without fault, I can't select a Serial ATA drive to install the OS to.

SOLUTION Hard disk storage has come a long way since Windows XP was released in 2001. The prevalence of RAID arrays and the introduction of Serial ATA drives has made installing Windows XP on a new system a little tricky. The same methodology can be followed regardless of whether you're running a RAID array or Serial ATA drive. Windows XP doesn't include drivers to help configure modern SATA or RAID controllers, so you'll have to add them yourself during installation.

Most motherboards ship with floppies to help the user install the correct RAID or Serial ATA drivers. If yours doesn't, visit the support section on the motherboard manufacturer's Web site to download a floppy image containing the drivers and copy the files onto a blank disk.

Reboot the computer using the Windows XP installation CD. When the installation begins, you'll notice a line at the bottom of the screen saying Press F6 to install a third party SCSI or RAID driver. From here, the installation application will automatically check your floppy drive and list any drivers it finds there. Select the one that corresponds to your SATA or RAID controller, and press Enter to continue installation. Select which Serial ATA drive or RAID array to use and install Windows as normal.

Another way to ensure the correct drivers are installed without having to worry about using a floppy disk is to slipstream the controller drivers onto a Windows XP installation CD.

PROBLEM My machine randomly reboots or locks up in use. It can happen any time, with any program. I can't find a pattern behind it.

SOLUTION One of the most underestimated causes of this problem is overheating. There are ways of finding out if your system is overheating. Some processors, including Pentium 4s with the "J" suffix, Pentium M, and AMD Athlon 64 units feature throttling technology that monitors the CPU temperature and scales back the load accordingly.

To find out if this is the case, install Panopsys ThrottleWatch 2.0 from this month's cover DVD. This is a Windows utility for detecting and reporting

CPU throttling activity in Pentium 4, Xeon, Pentium M and Athlon 64 processors.

If you don't have one of these CPUs, reboot and press F1, F12 or Delete (depending on your BIOS) and take a look at the system temperature readings. Take a look at the ambient and CPU temperature readings. The safe operational temperatures vary from processor to processor, but anything over 70°C should set alarm bells ringing.

For information on the operating temperature ranges of common desktop processors, visit www.heatsink-guide.com/content.php?content=maxtemp.shtml.

If your computer is only slightly overheating, it's possible that you won't get much useful information from the BIOS since the CPU will have cooled adequately by the time the machine reboots. In this case, download Motherboard Monitor temperature monitoring software from <http://mbm.livewire.dev.com> (or from this month's cover DVD), but take each reading with a pinch of salt as the data tends to be accurate only to within 5°C.

FAN CLUB

In general, the CPU temperature is considerably higher than the air within the system. If the ambient case temperature is high relative to the CPU, it indicates that the components within the box are generating more heat than the system fans can extract. The solution in this case is simply to add more fans to the case or check that all the fitted fans are running efficiently.

Start by opening the case and checking that the system fan(s) are working. If not, make sure there's no damage to the cable and that the connector is adequately seated on the board.

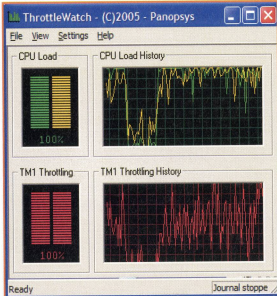
If a Pentium 4 or Athlon-based system features a single fan that's running efficiently but the ambient temperature is still hot, add a second fan. The most common and logical spot to position an extracting case fan is at the rear of the machine above the CPU since this is where most of the heat comes from. Those running beefy video cards will also benefit from installing a fan to draw air into the box behind vents at the front of the case.

Virtually all modern PC chassis include mounting points at the front of the case. Fans, which range in size from 80 to 120mm, can be obtained from computer shops for as little as \$10 each. Ensure the fan is aligned so that it's pulling air into the case and not blowing it out, then attach the fan in each corner using screws or locking pins.

Most motherboards feature secondary fan pins at the front corner (near the connectors for the power and reset switches, speaker and front LEDs) that can be used to power the secondary fan. Having one fan sucking cool air into the box and another venting the hot air will help reduce ambient temperatures, but sometimes the only solution

Inside info

- Macromedia Flash
www.flash.com
- Swiftly UnlockSWF
www.buraks.com/swiftly
- URL Action Editor
www.buraks.com/uae
- Action Script Replacer
www.buraks.com/asr
- Flash Decompiler
www.show-kit.com/flash-decompiler
- Macromedia Flash Support Centre
www.macromedia.com/support/flash/
- FlashKit Developer Resource
www.flashkit.com
- ActionScript.org
www.actionscript.org
- Flash Blog Aggregator
www.markme.com/mxna/index.cfm?category=Flash



Keep your cool: ThrottleWatch looks for CPU throttling activity resulting from overheating.

is to reset the CPU cooler so the heatsink makes better contact with the top of the processor.

GREASE IT UP

If there is direct evidence of the CPU overheating, you'll need a scraper of some kind, thermal grease and an old business card to apply the grease to the CPU.

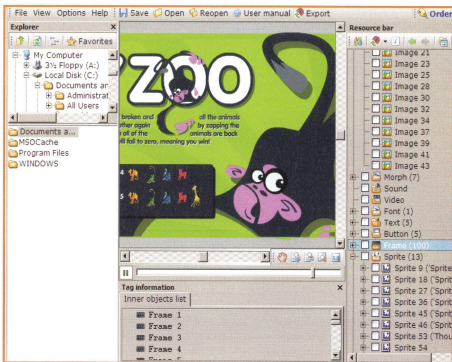
Start by removing the CPU cooler from the top of the processor by disconnecting the fan's power supply and removing the retention clips. Use the scraper to carefully remove the existing thermal grease from both the bottom of the heatsink plate and the top of the CPU. Take extra care if you're working on an older Athlon XP processor with an exposed core, as they're extremely delicate.

After cleaning the processor and heatsink, place a small dollop of thermal grease in the centre of the CPU and use the card to smear it thinly and evenly across the top surface of the processor. Arguably the most popular thermal grease on the market is Arctic Silver 5, which is available for around \$20 at most computer shops. It offers excellent thermal conductivity but is quite toxic, so wash your hands thoroughly after applying it. Follow the same method to beef up the cooling capabilities of the video card's heatsink.

If the CPU is still overheating after making these adjustments, it's time to step up to a beefier heatsink and fan. A recommended model is Gigabyte's PCU22-SE 3D Rocket Cooler, which fits an enormous range of CPUs including socket 462/A Athlon XPs, 478 and 775 Pentium 4s, and Socket 754/940/939 Athlon 64 processors. Though it's heavy and quite noisy during operation (50dB), the cooler works efficiently and is good for frequent upgraders because of its compatibility with a range of CPUs.

PROBLEM My machine regularly throws up errors at apparently random intervals, sometimes midway through the boot process. The problem doesn't appear to be associated with launching a particular app or service.

SOLUTION Though they can be frustrating to diagnose, RAM problems are a common cause of apparently mysterious seizures and errors. If you can, load Windows and launch Solitaire. For some reason, this ancient application is one of the best ways to diagnose RAM issues — it will almost never start if there's a memory problem.



Source of relief: utilities like Flash Compiler can help rebuild a lost source file.

Another way is using Memtest86 3.2, a free application for diagnosing problems with memory (featured on the cover DVD).

Memtest86 comes in the form of an ISO CD image file you can use to create a bootable CD-ROM, and it must be burned to a CD to work.

Once the ISO file is recorded, reboot with the CD-R in the drive to launch the test. Although you can customise the test by pressing C after booting from the CD-R, the software runs through a preconfigured set of tests automatically.

If you're running multiple RAM chips, remove all but one and test each module separately to lock down which one is generating errors. Replace as required. If only one module is installed in your PC, test with one that you know works.

PROBLEM I plugged a USB memory key into an external USB hub and found that Windows was unable to read the disk. After taking it to another computer and trying it there, I discovered the data on the disk was corrupted.

SOLUTION This is a relatively common occurrence, particularly with older USB hubs. The reason is that some hubs don't adhere exactly to the USB specification, and some even fluctuate in their voltage outputs, placing unnecessary load on devices they're

connected to. Flash memory tends to be extremely sensitive to fluctuations in either voltage or current, so the safest way to attach a USB key to a computer is directly via a USB port (or an extension cable). In the case of a damaged disk, the only recourse is to reformat it and hope you don't lose anything. For this reason, never keep critical data solely on a USB flash memory key. Always have it backed up on a hard disk somewhere.

Web

PROBLEM I'm a Webmaster and I've just inherited a site with Flash animation on it. I need to edit the animation, but where do I start?

SOLUTION Editing HTML pages and server side scripts is usually pretty easy since those files are written in plain text. But, as a compiled binary format, Flash can be tougher to deal with.

Your first task is to find out which program created the animation, and locate any source files. Flash projects created with Macromedia software typically have a FLA extension, whereas compiled movies (from any tool) have the more familiar SWF. FLA files aren't often stored on a Web server so, if you can't find them, seriously consider chasing the original author for copies.

Don't panic if no source files are found, or the originals have been lost. SWF movies can (to a certain extent) be edited or harvested for their contents. It's impossible to turn an SWF back into its original FLA; key details are lost during export. But there will always be enough data to build a decent look-alike.

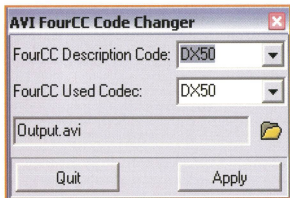
Sometimes the file in question will be a banner ad that just needs an updated hyperlink. In that case, a utility like URL Action Editor (see "Inside Info," page 84) can be used to perform some light surgery. For more complex script changes, Action Script Replacer (also in "Inside Info," page 84) is a good option. These utilities tweak the internals of a SWF without needing to create any new source code.

For files that need animation to be altered or removed, reconstruction from the ground up is usually the only option. To resurrect a simple animation, import the SWF directly back into Flash. This won't pick up scripting or other elements, however. For extracting symbols, video and structural information, a program like Flash Decompiler will do the trick.

Note that Flash content is often protected from import by its author. This is supposed to make it harder to pirate animations, but the mechanism is pretty easy to defeat. Swifty UnlockSWF, a free utility from the Manitu group, will unprotect an SWF so it can be fed back into Flash.

Multimedia

PROBLEM I download heaps of files from the Net. Often, after downloading a monster movie clip in AVI format, my media player refuses to play it, citing unknown codecs or formats.



Lost in translation: Identify unknown codecs with AVI FourCC Code Changer.

SOLUTION This is frustrating for users who don't keep on top of the various codecs. Thankfully, there's a way of identifying unknown video file formats.

The trouble with AVI is that it's not a specific codec but a file wrapper for presenting video and audio in Windows. An AVI file can have video within it encoded with a number of different codecs that need to be identified for playback. AVI files have a section in their header called FourCC which contains the four character reference for the codec used in the video.

To identify an AVI file's video codec, run the program AVI FourCC Changer V1.0 (download it from www.inmatrix.com/files/avic_download.shtml). Open the AVI file using the Folder button in the changer and read the FourCC Description Code box. Following is a brief list of common FourCC codes and their codecs:

- DX50 — DivX 5 codec (on this month's cover DVD as DivX 5.2.1 Installer).
- XVID — XviD codec (on the cover DVD as XviD 1.0.3 codec).
- 3IV2 — 3IVX "Delta 4.0" (download it from www.3ivx.com/download/index.html)
- DivX — DivX 3.11 low and high motion (www.divx-digest.com/software/divxcodec.html).
- MP42/MP43 — Microsoft MPEG-4 codecs included in Windows Media Code Pack (on the cover DVD as Windows Media Code Pack package).
- WMV1/WMV2/WMV3 — Windows Media Video files for Media Players versions 7 to 9 respectively. These will be recognised by Windows Media Player.

Once the file is identified, install the relevant codec and the file should play in any media player. However, while FourCC Changer allows you to set different FourCC codes in the AVI file, doing so may render the file unplayable.

If the downloaded file is not a mystery AVI file, it's likely to be in one of the following file formats:

- .ogm — Ogg Vorbis Movie: either an Ogg Theora video file with Vorbis audio encoding or an AVI (typically DivX-encoded) video file using Ogg Vorbis for the audio component. Install Ogg DirectShow Filters and Ogg Vorbis codec from the cover DVD.
- .mov/.qt/.movie/.moov/.mvi — QuickTime: install

QuickTime from www.apple.com/quicktime or a QuickTime Alternative from the cover DVD.

- .vcd/.mpeg2/.mpg/.mpeg — MPEG-21 or MPEG-2 (VCD or SVCD): install Stinky's MPEG-2 Codec (from the cover DVD) for MPEG-2 playback without using a DVD playback application.
- .rm/.ram — Real Video: use RealPlayer from www.real.com or Real Alternative from the cover DVD.

PROBLEM I often get asked by my non-technical friends how to transfer VHS tapes to a DVD. Please give me a quick explanation.

SOLUTION Connect the video output of the VCR to the video-in of your video capture card using the RCA or S-Video cable as appropriate. Connect the audio-out from the VCR to the line-in port of your soundcard or motherboard. Check in Windows Sounds and Audio Device Properties that the correct audio input is selected and set the volume to around 75% of the maximum.

Install Virtual VCR from this month's cover DVD and load the application. Click the hammer icon to access the program's settings. Under the File tab, choose and name the destination file. Under the Devices tab, select the appropriate video and audio capture devices. In the Capture Source drop-down menu, select either composite (RCA) or S-Video as required. In the Device Settings drop-down menu, select Video Capture Pin and press the Prop button.

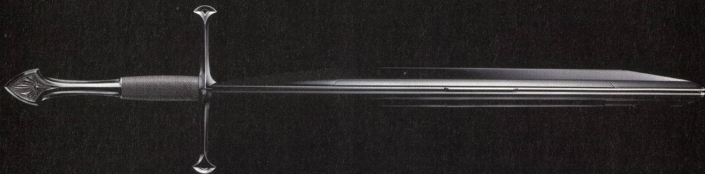
In the following pop-up screen, set the resolution and frame rate to either 720 x 576 or 768 x 576 for PAL at 25fps, then hit OK.

Next select the Audio tab and ensure Capture Audio is ticked. Click on Input settings and choose your audio input port, typically Line In. Next click the AV Sync tab and ensure Resample Audio is selected. This will dynamically resample the audio to fit the video capture keeping them in sync. Click OK on the settings window to close it.

Set the video to be captured on the VCR at the appropriate point, then press play and the red capture button in Virtual VCR simultaneously. You will get a few seconds of messy video while the VCR gets up to speed, but this can be edited out later.

Once the capture is complete, the AVI file can be added to a DVD project using your preferred DVD authoring application, or burned as a DVD-Video using Nero.

ASUS recommends Microsoft® Windows® XP Professional for Mobile Computing.



comfort: The Power of Possibilities



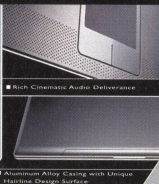
2 Year Australia Wide Pickup & Return
2 Year International Warranty
Service Hot Line 1300 652 865

The Slim, Lightweight 15-inch Notebook

The ASUS V6000V is an ultra slim 15-inch notebook that is lighter than most of the 14-inch notebooks available in the market. It is characterised by a refined and elegant design that represents the most comprehensive solution that not only offers functionality but also cutting edge performance. The sleek V6000V is the modern symbol of success and pointer of style for urban elites. **Comfort: The Power to Change the World**

- Intel® Centrino® Mobile Technology
- Intel® Pentium® M processor 700 sequence • Mobile Intel® 915M Express Chipset
- Intel® Wireless/PRO Network Connection 2915 a/b/g
- Microsoft® Windows® XP Home/Professional

- 15" XGA/SXGA+
- ATI Mobility™ Radeon™ X600 (PCI Express)
- Bluetooth™ (optional)



Rich Cinematic Audio Delivery

Aluminum Alloy Casing with Unique Hairline Design Surface



The New Mobile Processing Platform

ASUS
Quality For Life

www.asus.com.au

Intel, Intel logo, Intel Inside logo, Intel Centrino, Intel Centrino logo, Celeron, Intel Xeon, Intel SpeedStep, Itanium, and Pentium are trademarks or registered trademarks of Intel Corporation or its subsidiaries in the United States and other countries.

Networking

PROBLEM I've installed a home wireless network (802.11b standard), but I'm getting a much poorer signal strength than I expected. What can I do?

SOLUTION This is the biggest problem people face when installing wireless devices at home. It's generally caused by either another device interfering with the radio signal, or the signal itself is being weakened by materials in your home. These problems are greatly lessened with the 802.11a protocol, which operates in the 5GHz spectrum. However, this protocol is very uncommon for home devices and is quite expensive, so implementing it as a way of dodging problems isn't really viable.

The solution is to plan the layout of your wireless network carefully. Most home networks begin with the purchase of a wireless broadband router to share ADSL/cable between multiple computers or with a wireless access point (AP) to plug into an existing broadband router.

Look at where the router/AP is situated and where the clients are positioned in relation to the router/AP. Measure the distance as accurately as possible, taking into account any dividing walls or electrical equipment. Be realistic about the signal you expect to get. Although 802.11b is advertised at 11Mbit/s, the reality is more like 6Mbit/s.

Similarly, the 802.11g standard tends to give real-life speeds of 36Mbit/s rather than the claimed 54Mbit/s. The advertised speeds are really theoretical maxima, only achievable under optimum conditions.

Ever had to adjust a TV antenna to get better reception? Wireless devices are no different. The antennae which come standard on all wireless units are omnidirectional, so their positioning will affect broadcasting ability and client reception. When an antenna is pointing directly up (90° from the base), the radio waves are emitted more or less horizontally. Don't place the base unit on the floor — furniture is an instant source of interference.

Similarly, don't mount it on the wall close to the ceiling. The best height for general use is about waist height — on a desk is usually perfect. If you have a two-storey home, pointing the antenna directly up will pretty much kill the signal for the other floor. If you have two antennae, try placing one of them at 45° to the base to direct the signal upstairs (or downstairs), but bear in mind that this will create a dead spot in front of the unit.

A better option, if the antenna is removable, is to purchase a directional antenna to direct the signal where it's needed most. As the signal is concentrated, these give better performance than omnidirectional antennae.

Maximising coverage becomes difficult if the wireless unit only has one antenna, since you'll have to rely on good positioning and minimal interference to get the most out of the signal. This is a good reason to avoid purchasing units without the option for two antennae, unless the area you need to cover is relatively small, like a flat. The best way to identify any dead spots is to wander around with a laptop or PDA and keep an eye on the signal strength, watching for fluctuations and sudden drop-outs.

If you're not getting enough coverage no matter what you do, purchase a more powerful antennae, or get another wireless unit to act as a repeater. Most wireless APs can do this.

In repeating mode, an AP will pick up signals transmitted by the main base station and broadcast them, effectively doubling the wireless signal range. The downside is that this causes latency, as each network packet must be sent and re-sent. This problem is compounded for each repeater added to the network, so use them sparingly.

PROBLEM I suspect my neighbour is using my wireless broadband connection to surf the Net. He might also be roaming through my network. How I can make sure he isn't?

SOLUTION Breaching a wireless router or access point attached to a wired router gives a hacker access to the broadband connection as well as any attached unprotected clients. Routers generally come with a built-in firewall, but they protect the internal network from external attacks, not attacks from within. Remember that the wireless adaptor on these units represents the internal network connection. The router won't be expecting an attack from this direction. Luckily, there are a number of things you can do to minimise this vulnerability.

PERSONALISE AND PROTECT

All wireless units come with factory default settings — Web login password, telnet password, hostname, SSID (the name of the wireless area network that acts as a password so all devices can connect) and so on. Any hacker worth their salt has access to each vendor's default settings, so not changing them is asking for trouble. Make each password as complex as possible, using upper and lower case alphanumeric combinations.

Change the default broadcasting channel as well — an 802.11b/g unit has 14 available channels. This has the added advantage of maintaining signal quality if a neighbouring wireless device overlaps with yours — if they're on the same channel, performance will drop. Finally, change the SSID (the network name) but don't make it easily identifiable, like "Smith Family Wireless". If you do, anyone with a telephone directory can track down exactly where the signal's coming from.

Wireless standards

There are four main wireless standards — 802.11a, 802.11b, 802.11g and Bluetooth — but when people talk about "wireless" they're usually referring to 802.11 standards. Knowing the difference between them is important when planning your home wireless network.

By far the most common are 802.11b and 802.11g. This is because they are very similar and are mutually compatible — they both work in the 2.4GHz radio spectrum, and have 14 available communication channels. The difference is in speed — 802.11b works up to 11Mbit/s and 802.11g goes up to 54Mbit/s. You'll find that most wireless devices on the market have 802.11b+g adaptors, meaning that they support both standards. The 802.11a standard also works at 54Mbit/s but operates in the 5GHz radio spectrum and isn't compatible with the other two.

Bluetooth isn't an Ethernet protocol, so it doesn't support TCP/IP networking. It was designed to offer seamless and secure communication over a short range (around 10m) and offers speeds around 700Kbit/s. It also works on the 2.4GHz spectrum.



comfort: My Life. Now Playing.



2 Year Australia Wide Pickup & Return
2 Year International Warranty
Service Hot Line 1300 652 665

The ASUS W5000A's stylish design for modern sophistication is perfect for today's urban metropolitans who demand more than functionality in digital devices. No matter where you are, the W5000A's built-in 1.3 mega-pixel 180° swivel webcam will bring your vision to wherever you wish to be. Built-in microphone and the exclusive LiveFrame software, especially developed for the W5000A, allow easy capturing, recording and playing of photos and videos. The new Color Shine display technology further delivers higher brightness and rich color contrast, making the W5000A the best personal stage to see and be seen.

Comfort: Swivel 180° for Total Image Capturing

- Intel® Centrino™ Mobile Technology
- Intel® Pentium® M processor 700 sequence • Mobile Intel® 915M Express Chipset
- Intel® Wireless/PRO Network Connection 2915 a/b/g
- Microsoft® Windows® XP Home/Professional

12.1" WXGA

ASUS LifeFrame video capturing software
Bluetooth™ (optional)

Intel, Intel logo, Intel Inside, Intel Inside logo, Intel Centrino, Intel Centrino logo, Celeron, Intel Xeon, Intel SpeedStep, Itanium, and Pentium are trademarks or registered trademarks of Intel Corporation or its subsidiaries in the United States and other countries.



The New Mobile Processing Platform

ASUS
Quality For Life

www.asus.com.au

DON'T ADVERTISE

Disable SSID broadcasting (which is set on the access point and broadcast to all wireless devices within range). This is a great technology for creating wireless hotspots, but it also means that your AP is highly visible to others. As convenient as it is for connecting home devices, connecting them manually is a safer way to go.

CRACKING THE CODE

All the steps you take to protect a wireless network are meaningless without encryption to back them up. Without encryption, any opportunistic sniffer can pull sensitive information — passwords, personal information, network layout, anything — literally out of the air. Pretty much all wireless units available on the market support 128-bit Wired Equivalency Privacy (WEP) encryption.

WEP isn't the strongest encryption algorithm around — its weakness lies in the fact that it's dependent on a passkey which is manually set and doesn't change, and uses an Initialisation Vector which is only 24-bit in strength. Each client on the network uses this passkey, but authentication is unidirectional. Clients have to authenticate to the AP, but the AP doesn't have to authenticate back. This means that if the passkey is broken (which is possible), a hacker can pose as a friendly AP and trick clients into passing them information.

In spite of its drawbacks, WEP is far, far better than nothing at all. So many users don't secure their wireless networks that hackers generally go for these softer targets over a WEP-hardened one. To make your encryption even stronger, change the passkey regularly. A rotating 128-bit key is much more secure.

There are stronger wireless algorithms around, such as WPA and 802.11i, but they're not in common use yet. Some wireless units feature future support for these standards via a firmware upgrade.

DON'T BE GENEROUS

Handing out IP addresses to anyone who connects is not the safest way to go, so disable the DHCP service. Static IP addressing works exactly the same for wireless adaptors as it does for wired ones. The advantage is that you maintain control over who can connect, as well as restricting information about the layout of your network (which is contained within an IP address). If you really can't live without DHCP, limit the address pool to the maximum number of computers connected — the default setting is generally a pool of 100 addresses or more.

LAYERED SECURITY

This is applicable to networks in general, not just wireless ones. Don't rely on one layer of security — if someone is determined enough, they'll crack the code. Multiple layers of security offer comprehensive protection and an element of redundancy. If your unit supports VPN (and many do), consider setting up VPN tunnels in addition to WEP. This adds a second layer of encryption to all network traffic, which would certainly defeat any casual hacker. Firewall all internal machines — don't rely on the router's firewall for protection. In the same way that a router can't protect against an internal attack, neither can client machines unless you enable them. You'll need to set up a few exceptions and trust relationships to facilitate resource sharing, but this won't compromise security if you set these correctly.

HOUDINI

If you don't need around the clock wireless access, turn off the router/AP when you're not using it. The best way to lock down a potential breach is to make it disappear.

Programming

PROBLEM Contemporary programming environments provide rich debugging features, yet when dealing with Web applications, server-side debugging is unnecessarily complex. Is there an effective way of managing exceptions — program crashes — in an ASP.NET app?

SOLUTION The key to managing exceptions is understanding that the global.aspx file can contain routines which have scope over the entire Web application. If an error is unhandled, the application's global error-handler will be used. Thus, employed sensibly, this method can give notice of an error, irrespective of where it occurs.

The following code (this and other scripts, available on cover DVD) does the trick nicely, emailing the developer whenever an exception takes place, with the name of the file and a stack dump for diagnostic purposes. Finally, the routine redirects the end user to another page which can try to gracefully recover.

```
<%@Import Namespace="System.Web"%>
<%@Import Namespace="System.Web.
Mail"%>
```

```
<%@Import Namespace="System.
Diagnostics"%>
```

```
<script language="VB"
runat="server">
```

```
sub Application_Error(Sender As
Object, E as EventArgs)
```

```
Dim msg As new MailMessage()
```

```
msg.From = "webmaster@abc.com.au"
```

```
msg.To = "developer@abc.com.au"
```

```
msg.Subject = "Website Error"
```

```
msg.Body = "<font='verdana'
size='11'><B>URL:</B> " &
Request.Path & "<BR><B>MESSAGE:
</B><BR>" & Server.GetLastError.ToS
tring & "</font>"
```

```
msg.BodyFormat = MailFormat.Html
```

```
SmtpMail.SmtpServer = "localhost"
```

```
SmtpMail.Send(msg)
```

```
Response.Redirect
("errorpage.aspx")
```

```
End sub
```

```
</script>
```

PROBLEM A program is running but doesn't seem to be doing anything. After a while, you wonder if the computer has simply locked up. Minimising and maximising windows doesn't help; the program either goes completely blank or everything that has been displayed on top — the Start menu, say — leaves a ghostly imprint behind. What's going on?

SOLUTION The app is so busy it can't respond to messages Windows is putting in its queue. Although an end user may not realise it, operating systems continually talk to all their running processes, and this chat is known as sending "messages". A message may tell a program that the mouse has moved over it, a button has been clicked or a key



Ctrl+Alt+Del: believe it or not, this is a running program, but it's too busy to redraw itself.



comfort: Open Up and Unlock A World of Possibilities



2 Year Australia Wide Pickup & Return
2 Year International Warranty
Service Hot Line 1300 652 865

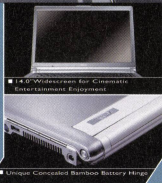


ASUS

The W3000A offers total vision satisfaction for both work and play. The widescreen is perfect for entertainment applications and multi-tasking is now possible with the W3000A's option of displaying two windows simultaneously. The new Color Shine display technology further delivers higher brightness and rich color contrast, making the W3000A great for both work and entertainment. Open up the ASUS W3000A and unlock a world of possibilities.

Comfort: Just Stretch Out

- Intel® Centrino™ Mobile Technology
- Intel® Pentium® M processor 700 sequence * Mobile Intel® 915M Express Chipset
- Intel® Wireless/PRO Network Connection 2915 a/b/g
- Microsoft® Windows® XP Home/Professional
- Bluetooth™ (optional)



14.0" Widescreen for Cinematic Entertainment Enjoyment

Unique Concealed Bamboo Battery Hinge



The New Mobile Processing Platform

ASUS
Quality For Life

www.asus.com.au

has been pressed. A message may also tell a window which had been minimised or partially occluded that it is now fully visible again and must be redrawn. It's because programs don't "listen" for messages that they fail to repaint themselves, and this is why the user sees a blank or imprinted window.

A system command should be used to cause a program to temporarily pause and process any pending messages. This needn't be intrusive and should be inserted into any loop or body of code which potentially takes a long time to complete. This is another case of something which is powerful in its simplicity but regularly neglected. Users often don't appreciate when a program does respond to events within a busy loop, but it's absolutely certain they'll be unhappy if it doesn't!

Here's a trite loop that makes the computer busy:

```
for i := 1 to 9999999 do
begin
    x := sqrt(i);
    lblMessage.Caption := IntToStr(i)
    + ' - ' + FloatToStr(x)
end;
```

This loop even attempts to write to the screen, giving an indication of progress. But unless the app gets a breather to process screen paint messages, these numbers will never be seen. This can have a negative effect — the lack of visible progress will further convince the user that an app has locked up.

In Delphi the command is `Application.ProcessMessages`. Add that to the loop and the process will keep responding, no matter how long or complex it is. In Visual Basic it's `DoEvents()` and in Visual Basic.NET it's `Application.DoEvents()`.

PROBLEM .NET provides tremendous designers which make retrieving data from multiple tables a snap. However, they're also potentially inefficient, making individual objects and code for each underlying table and thus requiring multiple round trips from the client to the server. How can I pull additional data sets in one query?

SOLUTION The trick is to realise that the `SqlCommand` object is entirely capable of executing multiple queries in a round trip to the server. Commonly, this class is used with one query, like so:

```
SqlCommand cmd = new SqlCommand
("SELECT * FROM Employees", conDB);
```

However, the following statement is also entirely legal:

```
SqlCommand cmd = new SqlCommand
("SELECT * FROM Employees; SELECT *
FROM Clients", conDB);
```

This batch query makes only one round trip to the server. Two queries are executed on the server, and two result sets are returned. Of course, this achieves nothing unless the results will actually be used, but how this is done varies depending on whether a data set and data adaptor is used or a data reader.

Using a dataset is straightforward:

```
SqlDataAdapter adapter = new
SqlDataAdapter(cmd);
DataSet ds = new DataSet();
adapter.Fill(ds);
```

The `Fill` operation creates two tables in the `DataSet` object which will be named "Table1" and "Table2" and so on by default. An individual table can then be retrieved with this syntax:

```
DataTable tblEmployees =
ds.Tables["Table1"];
```

The default naming scheme is overridden by modifying the `Fill` operation:

```
adapter.Fill(ds, "Employees");
adapter.Fill(ds, "Clients");
```

Alternatively, a data reader can be used. This is no more complex than using a data reader on a single result set; the only difference is to call the reader's `NextResult` method to move onto the next table.

Batching queries is a simple way to get a performance gain in a database application, even more so if the multiple result sets come from a stored procedure.

PROBLEM ASP.NET's `DataGrid` is a versatile display component with rich functionality out of the box, with columns easily set up.

Yet there's no provision for conditional formatting. How do I deal with a business application that demands special displays for varying circumstances — red text for negative values, for instance?

SOLUTION `DataGrid`'s built-in template column is perfect for hand-coding HTML tables. This allows a column to be created in the form designer without binding it to any data object. Instead, a method can be created in code which is executed every time that column is to be displayed (once per row).

Note that although the template column can be defined, there's no provision to specify the method to be created in the `DataGrid`'s property pages. To do this, turn to HTML. Click the form's HTML view and locate the template column. Where its `Text` property is specified, add code to call a method instead:

```
<asp:TemplateColumn SortExpression=
n="NextDays" HeaderText="Days till
Inspection Due" FooterText="Days
till Inspection Due">
```

```
<ItemTemplate>
```

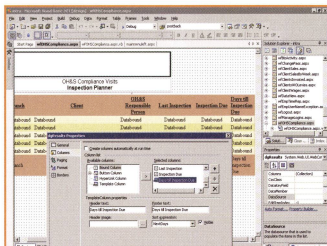
```
<asp:Label runat="server"
Text="<% DaysTillNext(Container.Oa
taItem) %>">
```

```
</asp:Label>
```

```
</ItemTemplate>
```

```
</asp:TemplateColumn>
```

The method must then be defined in the



Make it mine: use a template column in a `DataGrid` to call custom code to render the cell's contents.

For more ideas, greater choice & better service, try MicroGram



Windows Based Terminal

Supports
Terminal Server
with Microsoft RDP
& Citrix ICA protocols. Also
emulates SCO, DEC, Wyse
terminals.
Cat 1239-1 \$649



VPN Server

Provides up to 100 VPN
tunnels for secure access
over LAN or WAN links.
Cat 10164-1 \$849

Product of the month



Zebra LP2844 Barcode Printer

A reliable thermal printer that is
great for retail outlets or small
warehouses. Print width of
28mm to 104mm. Serial,
Parallel and USB interface.
Cat 5751-1 \$799



Sharp Cash Register

A basic cash register suitable
for small retail outlets.
Cat 1008129-1 \$289



Computer Sharer

Control one computer from
two different locations (not at
the same time). Use standard
keyboards, monitors & PS/2
mouses
Cat 11667-1 \$139



Highpoint SATA RAID

4 port SATA RocketRAID card.
Supports RAID 0,1,5,10 and
JBOD.
Cat 2906-1 \$249



Serial Over wLAN

Use any serial device over a
wireless connection. A higher
gain antenna can be attached
to cover longer distances.
Cat 15155-1 \$529



SMS I/O Controller

Switch any electrical device
on or off by sending an SMS
from any mobile phone.
Cat 17087-1 \$1029



USB Temp and Humidity Sensor

Measures the relative
humidity and temperature
and can graph the results on
the included software.
Cat 17090-1 \$319



64Bit 3.3v PCI-X Serial Card

Compatible with both 32 and
64bit PCI slots. Two DB9
connectors.
Cat 2870-1 \$149



USB to 8 Port Serial

Attach up to 8 serial devices
to one USB port.
Cat 2936-1 \$459



Digital I/O Card

Provides 48 digital I/O lines
on a PnP interface card.
Has three 16bit counters with
a maximum count rate of
10MHz.
Cat 17053-1 \$249



Extend USB 50m

Use inexpensive UTP cable
(not included) to extend any
USB 1.1 device up to 50m
from the PC.
Cat 11666-1 \$105



Cash Drawer

Can be attached to
Epson/Star/Citizen/Positex
parallel receipt printers.
Cat 8897-1 \$199



64Bit 3.3v PCI-X Parallel Card

Compatible with both 32 and
64bit PCI slots. Single DB25
connector
Cat 2871-1 \$119



Fingerprint Reader

Provide secure access to your
PC using this USB fingerprint
reader.
Cat 9237-1 \$199



Serial Over Bluetooth

Turn any serial device into a
cordless device over a
Bluetooth link.
Cat 11908-1 \$459

What's new?

Internet Phones

- Designed specifically for Skype.
 - Make free phone calls world wide - Skype to Skype
 - Ridiculously cheap phone calls to any fixed line
phone in Australia for approx. 3 cents/min -
NO FLAG FALL.
- Cat 10165-1 Desktop Style \$129
Cat 10166-1 Mobile Style \$119

IP KVM

Attach this unit and access all the machines on your
existing KVM remotely with a web browser. Even allows
you to reload the OS on the remote computer
using your local CD drive.
Cat 11674-1 \$1099

Wireless Keypad for Notebook

This keypad is the same as a numpad on a full size
keyboard. It also has 14 multimedia keys.
Cat 1008153-1 \$69

Digital I/O to Ethernet

This unit allows the user to remotely control 7 Digital I/O
ports and 1 RS232/422/485 port over LAN or WAN.
Cat 15157-1 \$329



LCD with Terminal

17" LCD with
a Windows
based terminal-
built in.
Has Win CE
with IE.
Cat 1236-1
\$1849



USB Barcode Scanner

Symbol
LS-2208
CCD Barcode
scanner. Comes with a stand
and attaches to a USB port.
Cat 8614-1 \$499



Wireless Hotspot

Allow users to access the
Internet over a secure
wireless link. Great for cafes,
libraries, conference
rooms etc.
Cat 11451-1 \$1199

Wireless LAN Equipment! We've got the lot - antennas, cards, pigtails, converters, cables!



MicroGram Computers

Ph: (02) 4389 8444 FreeFax: 1800 625 777

info@mgram.com.au

Vantest Pty Ltd trading as MicroGram Computers ABN 60 003 962 100, 1/14 Bon Mace Close, Berkeley Vale NSW 2261

All prices subject to change without notice. For current pricing visit our website. Pictures are indicative only.

See all these products & more on our website...www.microgram.com.au

► code-behind page. In the method above, the current row of data is passed into the routine and so it can be evaluated as needed:

```
Public Function DaysTillNext(ByVal
dr As DataRowView) As String

    Dim s As String =
dr("NextDays").ToString

    If CInt(s) <= 0 Then

        s = "<font color='red'>" & s
        & "</font>"

    End If

    Return s

End Function
```

Here, the font colour turns red if the value of the "NextDays" column is a negative value. Any HTML code could be used here, and any calculation performed.

PROBLEM I know that command line parameters are a valuable tool for developers, but I use them so rarely that it takes effort to familiarise myself with them again. Any tips for avoiding this?

SOLUTION For all the benefits of graphical software, the old command line parameter is something which still holds value, allowing information to be passed into a program from the moment it begins execution without needing any overt prompts or configuration files. This can be especially useful for debugging purposes; pass in a command-line parameter, such as `-debug`, to preload a screen with sensible defaults. Or use a parameter such as `-remote` to connect to the company database from home, using an external IP address.

Complicating the matter is that some languages count the application name itself as the first parameter. And even if that's under control, the first parameter may actually be numbered 0.

In Delphi, the built-in variables `ParamCount` holds the number of command line parameters and the `ParamStr` string array holds the parameters themselves, starting at index 1. In the situation above, the location of the data file could be passed in like so:

```
if ParamCount = 1 then
    strPath := ParamStr (1)
else
    strPath := 'C:\file.txt';
```

This allows the developer to make a shortcut to the

app with their own test data file used. As an aside, `ParamStr(0)` holds the full path to the executable, and the built-in variable `CmdLine` contains the entire command line itself.

In C# (and other .NET languages), there are no built-in variables. Instead, the main routine takes in an array of strings. The `Length` property of the array gives the count of how many parameters have been given. The first parameter is at index 0; the program filename is not included.

```
if (args.Length == 0)
    badInput = true;
else
{
    long num = long.Parse (args [0]);
}
```

C and C++ also take command line parameters as arguments to the main function, but the first parameter is an integer value giving the count. The first parameter is at index 0 but, as with Delphi, this is the name of the executable file invoked. C and C++ also require more care because they don't provide parameters as a memory-safe package of string objects; instead they are an array of pointers to strings. That is, the parameters are contained elsewhere in memory and simple object references to each parameter are handed to the main routine.

```
#include <stdio.h>

void main (int argc, char *argv[])
{
    for (int count = 0; count < argc;
count++)
        printf ("argv[%d] %s\n", count,
argv[count]);
}
```

It's important not to read past the end of the array in C/C++ because of the ease with which random memory can be read from or written to. Pointers are a core component of these languages, but due to their potential for catastrophe, removing them was a key design factor of Java and the .NET languages.

PROBLEM How do I edit the password file in a Linux system?

SOLUTION It's important to exercise care when performing file-handling operations, especially when directly writing to the password file. These operating systems store encrypted passwords in a plain text file, along with a lot of other useful information.

Inside info

- MSDN documentation for C# Initializer
http://msdn.microsoft.com/library/default.asp?url=/library/en-us/com/htm/cmf_a2c_36qt.asp
- More on Windows' messages
www.apcmag.com/apc/v3.nsf/0/1B0A19FFDF043266CA256DE20008F2E8
- How to make forms more responsive
<http://forums.devshed.com/t216921/s.html>
- MSDN documentation on template columns
<http://msdn.microsoft.com/library/default.asp?url=/library/en-us/vbcon/html/vbtskaddingtemplatecolumnstodatagridwebcontrol.asp>
- An extensive examination of DataGrids
<http://aspnet.4guysfromrolla.com/articles/061002-1.aspx>
- Adding new users to UNIX/Linux
<http://umbc7.umbc.edu/~jack/ifsm498/users.html>
- UNIX manual page for `lckpwwd`
www.scit.wvu.ac.uk/cgi-bin/mansec?3C+lckpwwd
- LotusScript class reference
<http://cseh.best.vwh.net/n6classesref.html>
- Determining a user's roles in a database
www.notes411.com/dominosource/faq.nsf/0/445D517ECB22B65380256D6E007AC2231?opendocument

It's absolutely imperative to call system functions to lock and unlock the password file before operating on it. Without them, the app will still compile and run—but it exposes your system to risk if another app tries to use the file in the meantime. As an APC exclusive, here is fully working code to change a user's password by directly manipulating the password file. Best of all, APC hasn't seen SCO's code, so there's no fear of copyright infringement.

This routine essentially pulls the named user's current password information—all fields—into a data structure using `getspnam` ("get shadow password by name"). The new password is encrypted and added to this structure, and the details rewritten back out. Alas, it's not quite as simple as it sounds: the `putspent` ("put shadow password entry") method appends to the end of the password file. It will not replace an existing entry. Thus, some sleight of hand is needed.

Code must edit the password file before calling `putspent`. This necessitates locking the password file to be sure nobody else will use it. As noted, there's nothing which will force the programmer to do this, making it the sort of detail that separates a good program from a risky one. This is achieved by the `lockpwpdf` ("lock password file") and `unlockpwpdf` ("unlock password file") system calls.

```
void SetPassword (char *szUser,
char *szPlainPass, char *OutMsg)
{
    int pwWaits = 0;
    char tmpShadow [80];
    char command [200];
    FILE *fpShadow;

    struct spwd *shEnt = getspnam
    (szUser);

    bool AccountAdded = false;

    if (shEnt != NULL)
    {
        // Replace "xx" below with system-
        // specific salt code

        shEnt->sp_pwdp = crypt
        (szPlainPass, "xx");

        while ((pwWaits < MAXPWWAITS)
        && (!AccountAdded))
        {
            // Lock password file

            if (lockpwpdf () > -1)
            {
```

```
                strcpy (tmpShadow, tmpnam
                (NULL));

                sprintf (command, "%s -v
                \\"%s\":" %s > %s ; /bin/cp %s %s",
                GREP_PATH, szUser,
                SHADOW, tmpShadow, tmpShadow,
                SHADOW);

                system (command);

                unlink (tmpShadow);

                if ((fpShadow = fopen
                (SHADOW, "a+")) != NULL)
                {
                    if (putspent (shEnt,
                    fpShadow) < 0)

                        strcpy (OutMsg,
                        "putspent failed.\n");

                        fclose (fpShadow);
                }
                else
                {
                    sprintf (OutMsg, "Cannot
                    open %s\n", SHADOW);
                }

                // Unlock password file

                unlockpwpdf ();

                AccountAdded = true;
            }
            else
            {
                sleep (1);

                pwWaits++;
            }

            if ((pwWaits >= MAXPWWAITS)
            && (!AccountAdded))

                strcpy (OutMsg, "Cannot
                lock shadow password file.\n");
            }
        }
        else
        {
            sprintf (OutMsg, "Cannot
            find %s in the password file.\n",
            szUser);
        }
    }
}
```

PROBLEM Lotus Notes gives users different functionality via an Access Control List (ACL) on each and every database. User interface components can be hidden based on whether a user has been assigned a specific role or not with a function like `@IsNotMember("r(Accounts);@UserRoles)`. But the built-in scripting language, LotusScript, is less flexible in this regard, with no straightforward

function to evaluate if a user has been assigned a particular role.

SOLUTION The way to achieve this is to populate a `NotesACLEntry` object with all the permissions a user has, then iterate through this until the desired role is either found or the roles are exhausted. The following code will do this:

```
Function InGroup (db As NotesDatabase, sess As NotesSession,
strGroup As String) As Boolean

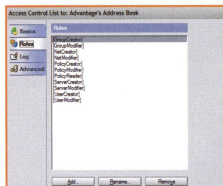
    Dim blnFound As Boolean
    Dim acl As NotesACL
    Dim entry As NotesACLEntry

    blnFound = False
    Set acl = db.ACL
    Set entry = acl.GetEntry
    (sess.CommonUserName + "/" & Domain")

    If Not (entry Is Nothing) Then
        Forall r In entry.Roles
            If r = strGroup Then
                blnFound = True
            End If
        End Forall
    End If

    InGroup = blnFound
End Function
```

Disappointingly, the named user must be explicitly named in the database's ACL. The `GetEntry` method will not list roles that are assigned to the user via any group memberships (e.g., any permissions they have by belonging to the "Accounts" group). [BUT](#)



Roles and regulations: a Lotus Notes database's Access Control List specifies who can use the database and to what extent.



Fighting the spam mutants

Professional spammers have a multitude of new tricks up their sleeves as they counteract ongoing attempts to shut them down, as *Angus Kidman* discovers.

Life should be pretty tough for spammers today. Most ISPs and freemail providers include automatic spam filtering, and major technology developers are investing millions of dollars in antispam initiatives. Once common spamming techniques such as using fake domains or

incorrectly spelling a few words in the message to avoid filters are now so well understood that spam constructed this way will usually be stopped dead in its tracks.

Yet the volume of spam continues unabated. Security firm Trend Micro estimates that spam comprised 60% of all email messages in 2004, and it registered more than 1.6 million spam mails throughout the year. Research company mi2g calculates that global economic damage from spam in 2004 was more than US\$264 million.



On 27 August 2004, John Howard faced accusations that he violated his own Government's antispam laws by paying an Internet company run by his son Tim to send out email promoting his election campaign.

EXPOSED Spam myth 1 It's illegal to send spam in Australia.

While the Spam Act 2003 (in force since April 2004) makes it illegal to send unsolicited commercial email and allows for potential fines of more than \$1 million a day for repeat offenders, there

are a number of let-out clauses. Effectively, a message isn't considered spam if the company concerned can demonstrate a pre-existing commercial relationship with the receiver. Charities, government bodies

and political parties are also exempt, a point highlighted in 2004 when John Howard used an electronic marketing company run by his son to send email messages to voters during the electoral campaign.

The spammers' tool kit

1

The common perception of a spammer as a solitary individual with a long list of email addresses and a product to sell is now somewhat inaccurate. While it's still possible to simply purchase a CD of email addresses (there are always dozens for sale on eBay) and start pounding away, that kind of resource is likely to prove useless if, for some reason, you decide to take up spamming. Many of the addresses will be duds anyway, and elementary protection systems will block your spam from many of the legitimate ones.

Much of the spam industry now works on a multi-layered affiliate model, a system which, like many other elements of electronic commerce, first emerged in the adult entertainment industry.

According to Trend Micro, finance products such as low-grade sources of credit are the most common form of spam advertising, followed by health (prescription medications and dubious sexual enhancements).

2

In this model, master spammers, often posing as legitimate marketing firms, sign up companies who want advertisements sent out in bulk and agree to receive both a commission on completed sales and (occasionally) an upfront marketing fee.

5

Of course, all those affiliate spammers still need lists of addresses and tools which can send millions of emails at once. This has led to a booming underground business in spam "ratware", which includes tools for harvesting addresses from sources such as Web sites and newsgroups, and email programs with tricks such as faking email headers and utilizing zombie machines which have been attacked by other malware code.

Affiliate

Affiliate

3

The master spammer in turn gets affiliates to send out the spam, complete with identifying codes which are used to track commissions. Using this approach, the master spammer can claim to not be responsible for sending any spam at all (and thus minimise legal risks), while still turning a handsome profit.

Master Spammer

4

Affiliates change their identities frequently to avoid detection by spam filters, and rely on the longstanding theory that only a tiny percentage of recipients need to respond in order to make spamming profitable. Because a commission model is used, the sign up rates for "advertising" on such schemes are often low and may even be nonexistent.

While antispan developers are constantly refining their software to render ratware ineffective, ratware code is also updated frequently to work around those refinements.

SpamAssassin

The reason? Spamming has become a professional business, and often a criminal one. "There are definitely gangs working now, and every so often they change things so they beat known signature techniques," says Alex Shipp, senior antivirus technologist for message filtering provider MessageLabs. "We see definite patterns when there's more than one gang around." In comparison, Shipp says, solo operators don't last very long: "We still

see small amounts of script kiddie activity, but it's relatively easy to detect."

One recent example uncovered by MessageLabs was a fake ecommerce newsletter which was an almost perfect replica of an existing publication. The copy was so exact that the company being copied had difficulty in determining whether the message was a fake. Only one small link within the newsletter connected to a phishing site,

and that was a near-perfect replica of the target site, with an address only very slightly different to the original.

Such sophisticated attacks are likely to increase. Spammers also recognise that they need to frequently change the content of messages to minimise the risk of detection.

Professional organisation and frequent mutation of message content are being matched with increased technical

Spam myth | 2 High-profile spammers are regularly captured by law enforcement agencies.

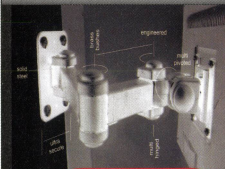
Every time a professional spammer is busted by the cops, it generates headlines in the technology press around the world, often accompanied by dubious statistics as to the amount of spam that individual

was responsible for. However, most spam experts believe that the only spammers who get caught are the small-time amateur players who lack the expertise to cover their tracks. "All the arrests we ever see are

the guys sending it from their bedroom," says MessageLabs' Shipp. And let's face it, if the arrests are effective, why do spam levels keep rising?



FLAT SCREEN MOUNTING SOLUTIONS



Plasma & LCD



Wall mounted



Pole mounted



Desk mounted



Special use

compatible • secure • affordable
versatile • engineered

37 Models • Fast Delivery

1800 241 280

www.skunkworks.com.au

SKUNKWORKS

Agent and Reseller Enquiries Welcome

► sophistication. Many spamming "ratware" packages include routines to bypass popular spam filters such as SpamAssassin. That makes traditional filtering of spam using message content less reliable. "If you go on content alone, you're in trouble," says Ian Dunlop, MessageLabs VP for product development and management.

Spammers are also taking advantage of other malware to get their message across. Antivirus provider Sophos estimates that 40% of spam is sent from consumer machines that have been hijacked.

DETECTION AND PREVENTION

To combat spam, software developers are increasingly having to look beyond simple text and link analysis, though this remains a critical weapon. MessageLabs employs three full-time staff to do nothing more than generate spam signatures.

Identifying spam often requires deeper analysis of more arcane details. For instance, one frequently used ratware package always included an unexpected lower-case "i" within its MIME-type specification, making it easy to identify those messages as spam without even looking at the content. (Unfortunately, the package has since "fixed" that error, though many spammers still appear to be using the unpatched version.)

Mail providers have also become more savvy. For instance, Google's Gmail service appears not to bounce messages from invalid addresses, making it more difficult for spammers to mount dictionary-style attacks and then identify active accounts.

In its first year of operation, Australia's antispam legislation appears to have had some impact. The Australian Communications Authority, which administers the Spam Act 2003, claims that "several major spammers" have been shut down since the legislation was introduced. Perhaps more tellingly, Australia is no longer among the top 10 countries originating global spam according to ongoing research by Sophos.

Other tactics are being utilised as well. The Australian Communications Authority recently began a spam reporting trial which encourages customers of Pacific Internet to report any spam received directly to the authority using a dedicated tool. The data collected will be used to help identify major spammers, and to create a body of admissible evidence for use in legal challenges. If it's successful, the program will be extended to other ISPs.

Australia is no longer among the top 10 countries originating spam

The authority also has antispam experts working

within the Australian High Tech Crime Centre to provide advice on how spam is being used for criminal enterprises, and joint memorandums have been signed with the US, UK and Korea in a bid to cut down spam volumes. (Korea's extremely high level of broadband penetration has made it a global hotspot for spam generation).

Unfortunately, no amount of technology or global cooperation can counteract stupidity. A recent survey of 6,000 Internet users by Forrester Research found that, on average, around 45% had made purchases as a result of unsolicited email. As long as those numbers stay high, the criminal and the greedy will keep spamming. **ETES**

EXPOSED

Spam myth|3

You should never click on unsubscribe links in spam.

If you would prefer not to receive further messages from [redacted] please [click here](#)

Conventional wisdom holds that you should never click on the "remove me" option that features in many spam messages. While for the most part this is sage advice, antispam legislation such as Australia's often requires commercial providers to include a functional unsubscribe link in their

marketing email if they want to work within the rules, and some mass-market mailers do promote unsubscribe lists to their affiliates. A good rule of thumb is this: an unsubscribe link from a cheap Rolex site should be ignored, but if you're getting bombarded by an identifiable Australian company (and you're sure phishing isn't involved), unsubscribing might be worth a try.

iPrimus unleashes super-fast ADSL

The ISP details its plans for the rollout of 2Mbit/s or faster ADSL.

Leading ISP iPrimus will be installing its own DSLAMs into a further 122 Telstra exchanges in addition to the 38 it has already enabled. Customers connected to iPrimus' own DSLAMs will benefit from fast transfer rates and attractive pricing, but won't easily be able to change ISPs because there's no streamlined process for changing providers between third party DSLAMs. A full list of the exchange areas which will receive iPrimus 2Mbit/s broadband services is at www.primusonline.com.au/coverage.php.

iPrimus can offer these services in some areas immediately because the already approved ADSL standard can run at up to 8Mbit/s. ISPs that are vying to offer ADSL2+ services at speeds of up to 28Mbit/s must wait for the standard to be approved for use on Australian phone lines.

The company has simultaneously asked the competition watchdog, the ACCC, to use its legal arbitration powers to resolve a dispute over how much Telstra is charging iPrimus for access to customer phone lines. And in the wake of a competition notice that was served on Telstra in March last year, several other ISPs are trying to mount a class action against the telco



Bring out your dead: most people will need a new modem like this Netcomm NB5 to use ADSL2/2+ speeds.

giant over possible anti-competitive behaviour.

Telstra, which operates by far the largest ADSL network in Australia and resells it for use by other ISPs, has attracted controversy since it released its \$29.95 BigPond broadband plan last year. ISPs and the ACCC say this was cheaper than the wholesale price Telstra was charging competing ISPs. To the indignation of these ISPs, Telstra has asked the competition watchdog to lift its sanctions and the threatened \$300 million fine, arguing that its new wholesale price of \$24.20 including GST is cheap enough for ISPs to offer a competitive service and still make a profit. Out of the remaining \$5.75 per month, ISPs must pay for Internet data, billing, network maintenance and customer support.

Dan Warne

Broadband coverage expands

Telstra connected 20,000 premises per week to ADSL in 2004, the company recently announced in a media statement. The telco also extended its ADSL coverage area by 10% during the year, making broadband available to almost 85% of residential and business lines nationally. Broadband take-up more than doubled, indicating that consumers are no longer unhappy with the value of plans.

Optus boosts value

OptusNet has dramatically boosted the value of its broadband plans, offering up to 40GB of extra downloads between 2 and 9am. The extra download capacity will be a boon for P2P users, who often leave their PCs running overnight as they download files. The change makes OptusNet cable broadband even more attractive. It already offers substantially higher speeds than ADSL, but until now has only offered plans with download limits of up to 20GB.



Suck it up: off-peak goes unlimited.

Your monthly guide to the best deals

APC is proud to partner with the independent broadband monitoring service Broadband Choice (<http://broadbandchoice.com.au>) to bring you the best broadband deals every month.

The comparison table on the following pages focuses on ISPs that best serve the majority of APC readers' needs. These include coverage in Melbourne, Brisbane and Sydney; 1300, 13 or 1800 telephone support.

We've only listed those that meet at least three of our four plan selection criteria:

- Budget plan: cheapest deal under \$30.
- Light plan: cheapest deal under \$65, with at least 512Kbit/s speed and 1GB data.
- Family plan: largest download allowance under \$90, at least 512Kbit/s and 5GB data.
- High speed: cheapest 1.5Mbit/s plan under \$160, with 4GB data minimum.

If an ISP has "unlimited downloads" but

speed is throttled after reaching a certain limit, the portion in which you can get full-speed downloads is listed as their limit.

We've picked the lowest price for a contract period of six months or less for broadband installation. Otherwise, the lowest price option was selected. The installation price doesn't include a modem because you'll generally get better value by buying one separately. See www.apcmag.com/web/_0/Get Routed!

for advice on choosing a modem/router.

Can't find your provider in our list? That's because some of the largest ISPs, and many smaller ones, didn't meet our selection criteria.

ISPs enter their own information into the Broadband Choice database. ISPs can contact bc@whirlpool.net.au for more details. Data for the following table was extracted from the BroadbandChoice database on 12 January 2005.

BROADBAND DIRECTORY

Name	Phone	Online	Budget plan (under \$30)	Light plan (under \$65, at least 512Kbit/s, % minimum 1GB data limit)	Family plan (under \$80, at least 512Kbit/s, % minimum 5GB data limit)	National	Spam filtering	Setup fee	Keyed transfer
4.0 ADSL	1300 784 472	www.4net0.net	\$13.95* 250MB 256Kbit/s	\$62.95 No limit 512Kbit/s	\$62.95 No limit 512Kbit/s				
asnet	1300 880 692	www.asnet.com.au	\$25* 512KB 256Kbit/s	\$34* 1GB 512Kbit/s	\$50* 25GB 512Kbit/s	✓	✓	✓	✓
AMT smartchat	13 88 88	www.amt.com.au	\$29.95* 200MB 256Kbit/s	\$59.95* 1GB 512Kbit/s	\$59.95* 12GB 512Kbit/s	✓	✓	✓	✓
Alphalink	1300 360 638	http:// home.alphalink.com.au	\$29.70* 200MB 256Kbit/s	N/A	\$69 30GB 512Kbit/s	✓	✓	✓	✓
Australia Internet Solutions	1300 887 877	www.aits.net.au	\$24.95* 200MB 256Kbit/s	\$59.95* 5GB 512Kbit/s	\$84.95 No limit 512Kbit/s	✓	✓	✓	✓
Austrelia Internet	1800 288 871	www.austrelia.net	\$29.95* 200MB 256Kbit/s	\$49.95* 3GB 512Kbit/s	\$59.95 25GB 512Kbit/s	✓	✓	✓	✓
Big Blue	1300 791 789	www.bigblue.net.au	\$24.95* 500MB* 256Kbit/s	\$49.95* 4GB 512Kbit/s	\$69.95* 20GB 512Kbit/s	✓	✓	✓	✓
Big Action	1300 721 726	www.bigaction.com.au	\$29.95* 200MB 256Kbit/s	\$59.95* 1GB 512Kbit/s	\$80.95 30GB 512Kbit/s	✓	✓	✓	✓
BITnet	1300 248 638	www.bit.net.au	\$29.95* 500MB 256Kbit/s	\$44.95 6GB 512Kbit/s	\$59.95 18GB 512Kbit/s	✓	✓	✓	✓
Biznet	1300 791 774	www.biznet.com.au	\$29* 250MB 256Kbit/s	\$49* 6GB 512Kbit/s	\$69 No limit 512Kbit/s	✓	✓	✓	✓
Blue Net Home	1300 852 147	www.blue.net.au	\$29.95* 200MB 256Kbit/s	N/A	\$74.95 15GB 512Kbit/s	✓	✓	✓	✓
BB ADSL	1300 780 720	www.brownlee.com.au	\$29.95* 200MB 256Kbit/s	N/A	\$87 50GB 512Kbit/s	✓	✓	✓	✓
Bullet Internet	1300 337 454	www.bullet.net.au	\$27.95* 200MB* 256Kbit/s	\$49.95* 3GB* 512Kbit/s	\$69.95* 12GB* 512Kbit/s	✓	✓	✓	✓
CECnet Broadband	1800 222 256	www.cenet.net.au	\$29.95* 200MB 256Kbit/s	N/A	\$89.95 No limit 512Kbit/s	✓	✓	✓	✓
Charlet reconnection	1300 337 425	www.charlet.net.au	\$29.95* 500MB 256Kbit/s	\$59.95* 12GB 512Kbit/s	\$79.95 20GB 512Kbit/s	✓	✓	✓	✓
Cousins Internet	1300 330 324	www.cousins.com.au	\$22.95* 200MB* 256Kbit/s	\$49.95* 4GB* 512Kbit/s	\$79.95 No limit 512Kbit/s	✓	✓	✓	✓
Curl Internet	1300 139 908	http://curl.com.au	N/A	N/A	\$89.95 No limit 512Kbit/s	✓	✓	✓	✓
CyberOne ADSL	1300 720 062	www.cyberone.com.au	\$15.95* 200MB 256Kbit/s	\$59.95 25GB 512Kbit/s	\$49.95 25GB 512Kbit/s	✓	✓	✓	✓
DART Residential	1300 305 113	www.dart.net.au	\$26.95* 200MB 256Kbit/s	\$59.95 5GB 512Kbit/s	\$99.95* 5GB* 1.5Mbit/s	✓	✓	✓	✓
DCSI	1300 665 575	www.dcsi.net.au	\$29.95* 200MB 256Kbit/s	\$49.95 25GB 512Kbit/s	\$89.95 30GB 1.5Mbit/s	✓	✓	✓	✓
Dinkum Internet	1300 663 400	www.dinkum.net.au	\$29.95* 200MB 256Kbit/s	\$59.95 No limit 512Kbit/s	\$99.95 No limit 1.5Mbit/s	✓	✓	✓	✓
Dodo	13 16 02	www.dodo.com.au	\$24.90* 250MB* 256Kbit/s	\$55 4GB 512Kbit/s	\$90 24GB 512Kbit/s	✓	✓	✓	✓
E-Access	1300 138 810	www.e-access.com.au	N/A	N/A	\$129.95 25GB 1.5Mbit/s	✓	✓	✓	✓
E-SOUL	1300 367 258	www.e-soul.net	N/A	N/A	\$119.95 No limit 1.5Mbit/s	✓	✓	✓	✓
E.Tel Communications	1800 733 888	www.e-tel.com.au	N/A	N/A	\$119.95 No limit 1.5Mbit/s	✓	✓	✓	✓
Encompass ADSL Services	1300 731 368	www.encompass.net	N/A	\$49.90* 3GB* 512Kbit/s	\$74.90 No limit 512Kbit/s	✓	✓	✓	✓
Encompass Home ADSL	1300 739 455	www.encompass.com.au	\$29.95* 200MB 256Kbit/s	\$59.95* 12GB 512Kbit/s	\$79.95 12GB 512Kbit/s	✓	✓	✓	✓
FairfaxWeb Internet	1300 723 161	www.fwi.net.au	\$29.95* 200MB 256Kbit/s	\$54.95* 5GB* 512Kbit/s	\$76.95 No limit 512Kbit/s	✓	✓	✓	✓
Egnyet.net	1300 723 231	www.egnyet.net	\$29.95* 200MB 256Kbit/s	\$39* 1GB 512Kbit/s	\$75 No limit 512Kbit/s	✓	✓	✓	✓
Global Dial	1300 130 710	www.globaldial.com	N/A	N/A	\$65.95 10GB 512Kbit/s	✓	✓	✓	✓
Gtalk	1800 468 255	www.gtalk.com.au	\$24.95* 200MB 256Kbit/s	\$59.95 4GB* 512Kbit/s	\$79.95 16GB* 512Kbit/s	✓	✓	✓	✓
Hedley Internet	1300 655 366	www.hedley.net.au	\$24.95* 200MB 256Kbit/s	\$39.95* 1GB 512Kbit/s	\$69.95* 10GB 512Kbit/s	✓	✓	✓	✓
Hypermax DSL	1800 625 297	www.hypermax.net.au	\$19.95* 200MB 256Kbit/s	N/A	\$129.95 No limit 1.5Mbit/s	✓	✓	✓	✓
IDNet	1800 617 292	http://idc.com.au	\$29.95* 200MB 256Kbit/s	\$59.95* 8GB 512Kbit/s	\$79.50 No limit 512Kbit/s	✓	✓	✓	✓
Ilknet Illnet Broadband	13 19 17	www.ilknet.net.au	\$24.95* 200MB 256Kbit/s	\$59.95 12GB* 512Kbit/s	\$100* 20GB 1.5Mbit/s	✓	✓	✓	✓
Independent Service Providers	1300 304 288	www.isp.net.au	\$29.95* 300MB 256Kbit/s	N/A	\$89 No limit 512Kbit/s	✓	✓	✓	✓
Inspired Networking	1300 301 222	www.inspired.net.au	N/A	\$59.95* No limit 512Kbit/s	\$59.95* No limit 512Kbit/s	✓	✓	✓	✓
Instant Communications	1300 139 369	www.inc.com.au	N/A	\$59.95 No limit 512Kbit/s	\$59.95 No limit 512Kbit/s	✓	✓	✓	✓

Key: * Additional charges excess usage fees when you exceed your download limit; † This price only available if bundled with long distance telephone from the ISP; + Additional download allowance available with this plan for use in off-peak periods; ^ ISP combines sent and received data when calculating usage.

Interstate Home ADSL	1300 788 233	http://adsl.interimnet.com.au	\$29.95 500MB 2560kb/s	\$59.95 16GB 5120kb/s	\$79.95 32GB 5120kb/s	\$89.95 16GB 1500kb/s	✓	5	✓	\$129 6mths	4
Interworks	1300 720 207	www.interworks.net.au	\$29.95* 200MB 2560kb/s	N/A	\$84.95 25GB 5120kb/s	\$119.95 35GB 1500kb/s	✓	5	✓	\$140 3mths	4
iPrimus Standard	1300 854 848	www.iprimus.com.au	\$19.95* 200MB 2560kb/s	\$49.95 20GB 5120kb/s	\$69.95 12GB 5120kb/s	\$119.95 12GB 1500kb/s	✓	5	✓	\$99 12mths	8
iPrimus 2000k+	1300 854 848	www.iprimus.com.au	\$29.95* 400MB 20480kb/s	\$49.95 12GB 20480kb/s	\$49.95 12GB 20480kb/s	\$49.95 12GB 20480kb/s	✓	5	\$4/m	\$99 12mths	8
KeyPort	1300 550 550	www.keyport.com.au	N/A	\$59.95* 4GB 5120kb/s	\$89.95 No limit 5120kb/s	\$99.95* 10GB 1500kb/s	✓	5	✓	\$99 6mths	4
Line Net	1300 721 225	http://line.net.com.au	N/A	\$54.95 1GB 5120kb/s	\$79.95 4GB 5120kb/s	\$84.95 10GB 1500kb/s	✓	10	✓	\$129 6mths	4
Nella Telecommunications	1300 884 638	www.nella.net.au	\$28.50* 300MB 2560kb/s	\$44* 4GB 5120kb/s	\$69.90 24GB 5120kb/s	\$77* 4GB 1500kb/s	✓	5	✓	\$129 6mths	4
Nelby Xpress DSL	1300 733 315	www.nelby.com.au	\$24.95* 200MB 2560kb/s	\$49.95 4GB 5120kb/s	\$79.95 No limit 5120kb/s	\$99.95* 15GB 1500kb/s	✓	5	✓	\$120 6mths	4
Nelby Home ADSL	1300 360 025	www.nelby.net.au	\$29.95* 300MB 2560kb/s	\$49.95 5GB 5120kb/s	\$69.95 20GB 5120kb/s	\$79.95 5GB 1500kb/s	✓	10	✓	\$109 6mths	4
Optusnet	1300 720 720	www.optusnet.com.au	\$29.95* 200MB 2560kb/s	\$44* 1GB 5120kb/s	\$69* 24GB 5120kb/s	\$89* 12GB 1500kb/s	✓	100	\$1/m	\$135 6mths	4
Optusnet	1300 720 720	www.optusnet.com.au	\$29.95* 200MB 2560kb/s	N/A	\$129 25GB 5120kb/s	\$129 25GB 1500kb/s	✓	100	✓	\$135 6mths	4
Optusnet Cable	1800 504 504	http://broadbandchoices.optusnet.com.au	\$29.95* 200MB 1000kb/s	\$49.95 1GB 1000kb/s	\$64.95* 12GB 1000kb/s	\$64.95* 12GB 1000kb/s	✓	5	✓	\$99 12mths	8
Optusnet DSL	1800 504 504	http://broadbandchoices.optusnet.com.au	\$29.95* 200MB 2560kb/s	\$49.95 1GB 5120kb/s	\$69.95 12GB 5120kb/s	\$98.95* 12GB 1500kb/s	✓	5	✓	\$99 12mths	8
Orkney (Net Unlimited)	1300 886 886	www.orkney.com.au	\$29.95* 200MB 2560kb/s	N/A	\$79.95 10GB 5120kb/s	\$120 10GB 1500kb/s	✓	5	\$250/m	\$120 12mths	4
OzEmail Fixed Broadband	13 35 93	http://homebiz.services.ozemail.com.au	\$29.95 300MB 2560kb/s	\$64.95 12GB 5120kb/s	\$64.95 12GB 5120kb/s	\$99.95 12GB 1500kb/s	✓	15	✓	\$0 6mths	8
Pacific Internet DSL	13 36 35	www.pacific.net.au	N/A	\$54.95 No limit 5120kb/s	\$54.95 No limit 5120kb/s	\$149* 22GB 1500kb/s	✓	5	✓	\$99 6mths	4
Pacific Business DSL	13 36 35	www.pacific.net.au	N/A	\$64.95 5GB 5120kb/s	\$88.95 10GB 5120kb/s	\$149* 22GB 1500kb/s	✓	5	✓	\$99 12mths	4
Primas-ADL Standard	1800 265 777	www.primasonline.com.au	\$29.95* 300MB 2560kb/s	\$49.95 2GB 5120kb/s	\$69.95 2GB 5120kb/s	\$119.95 12GB 1500kb/s	✓	7	✓	\$149 3mths	8
Primas 2000k+	1800 265 777	www.primasonline.com.au	\$29.95* 400MB 20480kb/s	\$49.95 12GB 20480kb/s	\$49.95 12GB 20480kb/s	\$49.95 12GB 20480kb/s	✓	7	✓	\$149 3mths	8
QConnect ADSL	1300 135 182	www.qconnect.net.au	N/A	\$54.95 25GB 5120kb/s	\$54.95 25GB 5120kb/s	\$89.95* 10GB 1500kb/s	✓	5	✓	\$129 1mth	4
REDS.NET Internet Services	1300 788 801	www.reds.net.au	N/A	\$56.40* 6GB 5120kb/s	\$74.25 No limit 5120kb/s	\$103.10* 24GB 1500kb/s	✓	5	✓	\$125 6mths	4
Schaefer	1300 554 487	www.schaefer.com.au	N/A	\$49.95 25GB 5120kb/s	\$49.95 25GB 5120kb/s	\$119.95 35GB 1500kb/s	✓	5	✓	\$120 6mths	4
Solo Internet	1300 303 375	www.solo.net.au	\$22.95* 200MB* 2560kb/s	\$49.95 4GB 5120kb/s	\$79.95 No limit 5120kb/s	\$89.95* 5GB 1500kb/s	✓	5	✓	\$99 6mths	4
SuperDSL	1300 888 990	www.superdsl.com.au	\$24.95* 200MB 2560kb/s	\$44.95* 4GB 5120kb/s	\$74.95 No limit 5120kb/s	\$99.95* 15GB 1500kb/s	✓	5	✓	\$100 6mths	4
Southbound Residential	1300 360 197	www.southbound.com.au	\$28.95* 200MB* 2560kb/s	\$40* 1GB 5120kb/s	\$68.95* 24GB 5120kb/s	\$78.95* 4GB 1500kb/s	✓	10	✓	\$129 6mths	4
Telstra Internet	1300 731 132	www.telstra.com.au	N/A	\$49.95 25GB 5120kb/s	\$89.95 35GB 1500kb/s	\$89.95 35GB 1500kb/s	✓	10	✓	\$89 6mths	4
Tel Pacific	1300 369 888	www.telapacific.com.au	N/A	\$59.95 14GB 5120kb/s	\$79.95 No limit 5120kb/s	\$89.95 14GB 1500kb/s	✓	5	✓	\$129 6mths	4
BigPond Cable	1312 82	www.bigpond.com	\$29.95* 200MB* 1000kb/s	\$59.95 10GB* 1000kb/s	\$59.95 10GB* 1000kb/s	\$59.95 10GB* 1000kb/s	✓	1	\$250/m	\$189 3mths	8
BigPond ADSL	1312 82	www.bigpond.com	\$29.95* 200MB* 2560kb/s	N/A	\$79.95 10GB* 5120kb/s	\$109.95 10GB* 1500kb/s	✓	1	\$250/m	\$99 12mths	4
TPI Internet	1300 360 855	www.tpi.com.au	\$29.95* 200MB 1500kb/s	\$49.95 2GB 1500kb/s	\$79.95 No limit 5120kb/s	\$49.95 2GB 1500kb/s	✓	20	✓	\$129 6mths	4
Tropical North Internet ADSL	1300 854 824	www.tropicalnorth.com.au	\$29.95* 300MB* 2560kb/s	N/A	\$79.95 32GB 5120kb/s	\$119.95 52GB 1500kb/s	✓	5	✓	\$79 6mths	4
TSN Internet	1300 760 360	www.tsn.net	\$29.95 1GB 1000kb/s	\$29.95 1GB 1000kb/s	\$79.95 No limit 5120kb/s	\$39.95 5GB 1000kb/s	✓	100	✓	\$129 6mths	4
Big Gig ADSL Plans	1300 557 300	www.bigbiznet.com.au	\$29.95* 300MB 2560kb/s	\$49.50* 4GB 5120kb/s	\$79.50* 5GB 5120kb/s	\$79.50* 4GB 1500kb/s	✓	10	✓	\$69 6mths	4
Veritad Australia	1300 669 869	www.veritad.com.au	\$27.95* 200MB 2560kb/s	\$64.95* 15GB 5120kb/s	\$88.95 No limit 5120kb/s	N/A	✓	5	✓	\$125 12mths	4
Web Ace	1800 202 012	www.webace.com.au	\$28.95* 200MB 2560kb/s	\$63.95 3GB* 5120kb/s	\$71.95 No limit 5120kb/s	\$117.95 6GB* 1500kb/s	✓	20	✓	\$99 6mths	4
WestNet	13 19 60	www.westnet.com.au	\$29.95* 300MB 2560kb/s	\$49.95 2GB 5120kb/s	\$79.95 30GB* 5120kb/s	\$89.95 14GB* 1500kb/s	✓	5	\$0.83/m	\$35 1mth	4
Yak Networks	1300 784 666	www.yak.com.au	\$29.95* 350MB 2560kb/s	N/A	\$149.95 15GB 5120kb/s	\$149.95 20GB 1500kb/s	✓	6	✓	\$119 1mth	4
ZCIS Optima ADSL	1300 782 226	www.zciss.net	N/A	\$59.95* No limit 5120kb/s	\$59.95* No limit 5120kb/s	\$139.95* No limit 1500kb/s	✓	999	✓	\$135 6mths	✓

Source: broadbandchoice.com.au. Published with permission.

Hands-on with hardware and software, plus bonus DVD content

WORKSHOP

Credit where it's due

David Williams explains how businesses which extend credit can use a new Australian Government Web service to validate ABNs.



Bonus DVD software

The source code for this article • [ABNLookup.xls](#).

Skill level

Intermediate

Requirements

Visual Basic.NET.

Time to complete

1 hour approx

Inside info

- **ABRpublic Search:**
www.abr.business.gov.au
- **The Australian Business Register:**
www.abr.gov.au
- **Australian Securities & Investments Commission:**
www.asic.gov.au

ABN	Entity Name	Trading Name	Status
61 835 430 476	DEPARTMENT OF INDUSTRY TOURISM	DEPARTMENT OF INDUSTRY TOURISM	011
61 835 430 476	AUSTRALIAN TAILORING OFFICE	AUSTRALIAN TAILORING OFFICE	011
71 596 967 312	ACT DEPARTMENT OF EDUCATION & TR	ACT DEPARTMENT OF EDUCATION & TR	011
36 342 615 855	COMMONWEALTH DEPARTMENT OF FAMILY & COMMUNITY SERVICES	COMMONWEALTH DEPARTMENT OF FAMILY & COMMUNITY SERVICES	011
62 855 638 085	DEPARTMENT OF DEFENCE	1128 RIVERMILL PARK	011
63 855 428 759	DEPT OF HEALTH & AGED CARE	DEPARTMENT OF HEALTH & AGED CARE	011
61 870 432 485	DEPARTMENT OF FINANCE AND ADMINISTRATION	DEPARTMENT OF FINANCE & ADMINISTRATION	011
61 870 432 485	The Trustee for Roly Development Trust	The Trustee for Roly Development Trust	011
61 870 432 485	TELSTRA CORPORATION LIMITED	TELSTRA / TELSTRA CORP	011

Sleight of hand: using the Web service, Excel can pull down data on all the ABNs entered.

Until recently, organisations wishing to validate ABNs for credit checks and the like had to look them up individually online, or buy a database of numbers on CD for \$220 each.

Thankfully, the Australian Business Register (www.abr.business.gov.au) has developed two methods of performing bulk ABN searches: an Excel spreadsheet-based tool, and an XML-based Web service. They are both free to use and the XML-based Web service can be integrated into any application.

GETTING STARTED

Using the Excel spreadsheet tool requires an active Internet connection and Excel 2000 or above. The latest version of the ABN Lookup tool can be found on this month's cover DVD.

The Excel Lookup spreadsheet uses macros, and if Excel's security option is set to High, the macro will be disabled. Use Tools > Macro > Security to switch to the security setting to Medium. Close Excel, then re-open the spreadsheet and click Enable at the prompt to allow the macro. Enter some ABNs and hit Lookup ABRpublic. Click Start and the spreadsheet will fill with information including the company name, trading names and other details.

To make use of the XML Web service it's necessary to register. Visit www.abr.business.gov.au/content.aspx?page=XMLWebService

and click the contact ABRpublic link to request a registration form. The registration form will be emailed to you, but must be returned by fax or post when complete.

Once processed, the ABR will send you a globally unique identifier (GUID), which must be coded into any Web service request. It's not possible to proceed without the GUID.

USING THE WEB SERVICE

Before coding, experiment with the XML service and become familiar with its

inputs and outputs. Look at <http://abr.business.gov.au/abrxmlsearch/ABRXMLSearch.aspx>, where you'll find a series of operations that will enable you to search for companies by ABN, name and other alternatives.

Click the first link to search by ABN; this invokes a method called `ABRSearchByABN` and prompts for three parameters. The first is the unique GUID, then the string to search for (such as 33 051 775 556) and the third is a Y/N value indicating whether the service should return historical data or not.

An example request to this method using the Simple Object Access Protocol (SOAP) has this XML structure (with `length` and `string` placeholders replaced appropriately):

```
POST /ABRXMLSearch/ABRXMLSearch.aspx
HTTP/1.1

Host: abr.business.gov.au

Content-Type: text/xml; charset=utf-8
Content-Length: length

SOAPAction: "http://abr.business.gov.au/ABRXMLSearch/ABRSearchByABN"

<?xml version="1.0" encoding="utf-8"?>

<soap:Envelope xmlns:xsi="http://www.w3.org/2001/XMLSchema-instance" xmlns:xsd="http://www.w3.org/2001/XMLSchema" xmlns:soap="http://schemas.xmlsoap.org/soap/envelope/">

  <soap:Body>

    <ABRSearchByABN xmlns="http://abr.business.gov.au/ABRXMLSearch/">

      <searchString>string</searchString>

      <includeHistoricalDetails><string</includeHistoricalDetails>

      <authenticationGuid>string</authenticationGuid>

    </ABRSearchByABN>

    </soap:Body>

  </soap:Envelope>
```

The response from the Web service has this XML structure (again, with the `length` and `string` placeholders containing sensible data):


```

HTTP/1.1 200 OK
Content-Type: text/xml;
charset=utf-8
Content-Length: length
<?xml version="1.0" encoding="utf-8"?>
<soap:Envelope xmlns:xsi="http://www.w3.org/2001/XMLSchema-instance" xmlns:xsd="http://www.w3.org/2001/XMLSchema" xmlns:soap="http://schemas.xmlsoap.org/soap/envelope/" *">
  <soap:Body>
    <ABRSearchByABNResponse xmlns="http://abr.business.gov.au/ABRXMLSearch/*">
      <ABRPayloadSearchResults>
        <request />
        <response>
          <usageStatement>string</usageStatement>
          <dateRegisterLastUpdated>date</dateRegisterLastUpdated>
          <dateTimeRetrieved>date</dateTimeRetrieved>
        </response>
      </ABRPayloadSearchResults>
    </ABRSearchByABNResponse>
  </soap:Body>
</soap:Envelope>

```

TAKING IT TO THE NEXT LEVEL

The Web service can be called directly from any custom application. Visual Basic.NET is a good choice of language because of its built-in support for XML-based Web services and the SOAP protocol.

Start Visual Studio.NET, create a new Visual Basic project and select Windows Application from the list of project types. Right-click on the project name in the Solution Explorer and choose Add Web Reference from the pop-up menu. A prompt will ask where to look for the reference; enter the URL <http://abr.business.gov.au/abrxmlsearch/ABRXMLSearch>.

Visual Studio displays the page and a message that this HTML document doesn't contain any Web service discovery info. At the top of the page you should see "For a formal definition, please review the service description." Click on Service Description to open a new page giving a precise description

of the Web service, including the operations it publishes and the parameters it requires, all encoded in XML. Click OK, and a Web Reference will be added to the project.

Web References allow functionality from a remote Web service to be incorporated into a project; it's identical in concept to creating references to local ActiveX objects or DLL libraries, which contain code that the application wishes to use.

Double-click on the Web Reference in the Solution Explorer. Visual Studio displays all methods and properties exposed by the Web service, including the number and type of each parameter required. To use the service, add this line to the start of the VB code files:

```
Imports ABRXMLSearchClient.WebReference
```

To search for an ABN in two lines of code, enter:

```

Public Function ABNSearch(ByVal
searchString As String, ByVal
history As String, ByVal guid As
String) As WebReference.Payload

    Dim ABRSearch As WebReference.ABR
XMLSearch = New WebReference.ABR
XMLSearch

    Return ABRSearch.ABRSearchByABN
(searchString, history, guid)

```

The first line creates a new instance of the **WebReference.ABRXMLSearch** object. The second line is the result of the **ABRSearchByABN** method of that instance, passing in three parameters: the string to search for, the Y or N history flag; and the programmer's GUID as supplied by ABR.

The return value from the method is a sequence of XML text. It must be deciphered, but the "hard work" of performing the ABN search is taken care of with a single call to a method in a remote Web service. If the Web service is ever updated, the new functionality is available immediately and the Visual Basic.NET program needs no compilation.

The other operations provided by the Web service are invoked in an identical manner, but with parameters as appropriate. Details on the parameters are displayed by double-clicking the Web Reference in the Solution Explorer.

The source code is on this month's cover DVD, which allows different methods to be called. Open the project in Visual Studio.NET, examine how it operates, then impress your boss by adding simple yet sophisticated ABN lookup functionality to your company's business apps. When your users enter a tab, they can click a button and the registered business name will appear (or an error if the ABN is invalid), strengthening the credit check process. [ETTC](#)

Also in Workshop

102 Programming ABN Lookup

A new Web service makes the process of validating ABNs easier. *David Williams* explains.

104 Windows XP IE update

Not implementing SP2 needn't mean foregoing its IE security gains, writes *James Bannan*.

105 Security Sender ID

David Emberton demonstrates how you can protect your domain name.

106 Internet Download quotas

Stephen Withers shows you how to monitor Internet usage to avoid incurring penalties.

108 Multimedia DVD authoring, pt 2

Daniel Winter concludes this series on authoring DVDs with freeware.

110 Multimedia Autorun CD/DVD

Daniel Winter takes you through the creation of an autorun menu for a data CD or DVD.

112 Handhelds Portable movies

It's easy to play DVDs on a PDA. *Anthony Caruana* ushers you in to the portable cinema.

113 Pro tips Adobe Photoshop

Advertising guru *Matt Davis* shares his secrets for getting more out of Photoshop.

114 Software @mail server

Anton Tomazin and *Caroline Leming* introduce a user-friendly messaging solution.

116 Mastering Linux, pt 5

Jarrod Spiga explores the command line console's more advanced functions.

Who should you trust?

You might not be ready to implement XP SP2, but that doesn't mean you have to forego its IE security benefits. *James Bannan explains.*

Not all XP users are convinced SP2 is worth its code. Administrators are still assessing its impact on SOE integrity, and not all home users want the Windows Firewall. However, the updated Internet Explorer browser security is worth having, and there is a way to implement it without patching.

PROTECT FROM WITHIN

The principal feature of SP2 for IE is the locking down of the Local Machine Zone (LMZ). IE now actively prevents automated HTML actions like file downloads, ActiveX controls and JavaScripts from launching within Web sites.

Whether you're using SP1, SP2 or an unpatched system, the LMZ is not readily accessible. To get around this, go to the registry and navigate to HKCU\Software\Microsoft\Windows\CurrentVersion\Internet Settings\Zones\0. Find the value:

```
"Flags"=dword: 0X00000021 (33)
```

and change it to:

```
"Flags"=dword: 0X00000001 (1)
```

Reboot, launch IE and go to Tools > Internet Options > Security. The LMZ will be visible (My Computer), along with the ability to select and modify settings. Deselect the preconfigured High setting — it's too restrictive.

The Internet Zone handles security for all sites not listed in other zones (Local intranet, Trusted sites and Restricted sites), with the exception of HTML files stored locally. By matching the two zones, the local machine gets consistent protection. Recommended settings are listed in the table (see right).

Manually configuring these zones affects applications using Internet Explorer's HTML rendering engine, such as Outlook and Outlook Express, so they benefit from the added protection.

WORK IN THE ZONE

There's no need to subject trusted sites to the same restrictions as other sites. Copy the URLs into the Trusted Zone, uncheck Require server verification (https), paste in the URL and click Add. This automatically applies the Low security preconfigured settings to the site. For any sites

you want to apply maximum security to, repeat the process, adding them to the Restricted Zone.

To make adding sites easier, grab the Internet Explorer Power Tweak from Microsoft at www.microsoft.com/windows/ie/previous/webaccess/pwrtwks.mspx. It adds two menu options to the Tools menu — Add to Trusted Zone and Add to Restricted Zone — affixing the current site to either zone instantly. To back up the security settings in each zone, enter the registry and go to HKCU\Software\Microsoft\Windows\CurrentVersion\Internet Settings\Zones\.

To save the lot, save the key at the Zones level (right-click > Export). Alternatively, save the settings for individual zones. Under the Zones key, 0 is My Computer and 3 is Internet. Backing up other zone information won't save added sites, only the security applied to that particular zone.

Next, navigate to HKCU\Software\Microsoft\Windows\CurrentVersion\Internet Settings\Zones\Domains and export the Domains key. It's useful for checking what's been added, and gives a breakdown of sites by domain extension. [BITS](#)

Skill level

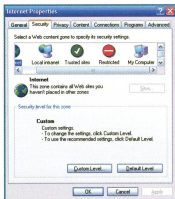
Beginner

Requirements

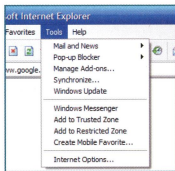
Windows XP • Internet Explorer.

Time to complete

30 minutes (approx)



Zone defence: enabling My Computer gets you into the heart of your machine's Web security.



Power steering: the IE 5 Power Tweak makes light work of choosing which zone to put sites into.

Recommended security settings

ActiveX controls and plug-ins	
Download signed ActiveX controls	Disable
Download unsigned ActiveX controls	Disable
Initialise and script ActiveX controls not marked as safe	Disable
Run ActiveX controls and plug-ins	Disable
Script ActiveX controls marked safe for scripting	Disable
Downloads	
Font download	Disable
Microsoft VM	
Java permissions	Disable Java
Miscellaneous	
Allow META REFRESH	Disable
Display mixed content	Disable
Drag and drop or copy and paste files	Disable
Installation of desktop items	Disable
Launching programs and files in an IFRAME	Disable
Navigate sub-frames across different domains	Disable
Software channel permissions	High safety
Userdata persistence	Disable
Scripting	
Active scripting	Disable
Allow paste operations via script	Disable
Scripting of Java applets	Disable
User Authentication	
Logon	Prompt for username and password

Spoof proof?

Prevent email identity theft and protect your domain name's reputation with the Sender ID framework. David Emberton explains.

It's very easy to fake an email identity. All it takes is erasing the name and address details in the Outlook profile, pop in someone else's, and hope the mail recipient is fooled. More sophisticated methods exist, but for the most part it's that simple.

This activity, commonly known as spoofing, exploits an obvious weakness in the email system. That is, mail messages are allowed to say who sent them, no questions asked. Spammers and scammers take advantage of this loophole every day, sending emails that appear legitimate but actually aren't.

For domain name owners, this presents a particular challenge, mostly for reasons of identity theft and fraud. Even worse, phoney spoofed emails can land you on an antispam black list, disrupting the flow of real mail and damaging your reputation.

The Sender ID framework is set to become the industry standard for verifying email sources. It uses the existing domain name system, in part, and works like this: if an inbound message claims to be from a particular domain but isn't being sent through one of that domain's designated servers, the message is presumed fake. Only messages that originate from an approved server will be guaranteed safe passage.

TXT APPEAL

Compatibility with Sender ID involves the use of TXT records attached to the domain name system. TXT is a special DNS record type that allows arbitrary data to be published by domain owners and queried by third parties. For Sender ID purposes this data is in Sender Policy Framework (SPF) format.

If you administer your own DNS, adding an SPF entry is fairly straightforward (consult your documentation for details). If you rely on a registrar or ISP to manage your domain name, you'll have to request that this work be done for you. In either

case, the biggest task is not adding the record but figuring out what it should say.

Each SPF entry begins with a version statement, commonly `v=spf1`, but possibly `spf2.0/pra` (`v=spf1` is known as SPF Classic and is the most widely supported). This is followed by a sequence of prefix/mechanism pairs and modifiers that describe the specifics of your email sending arrangement. This basic example allows any server to be approved:

```
v=spf1 +all
```

SPF records should always end with the `all` mechanism, which terminates processing, or a `redirect` modifier. Each mechanism needs to be assigned a prefix. If none is supplied, a pass (+) is assumed. Other allowed prefixes are fail (-), neutral (?) and soft fail (~). Neutral and soft fail describe grey areas, useful for organisations without a strictly controlled email setup.

PUTTING UP THE BARRIERS

Here are some example records based on common scenarios. For a fully tailored solution, visit Microsoft's Sender ID Framework SPF Record Wizard at www.anti-spamtools.org.

Scenario	code
Only servers and mail exchangers listed in this domain file can send outgoing mail, all others should be ignored.	Record: <code>v=spf1 +a -mx -all</code>
Mail is usually sent from a particular IP address, but if not, don't necessarily reject the message.	Record: <code>v=spf1 +ip4.xx.xx.xx.xx -all</code>
No mail is sent from this domain. All servers should be considered unauthorised.	Record: <code>v=spf1 -all</code>
This domain publishes an SPF record for compatibility, but isn't concerned about usage. All messages may or may not be considered legitimate.	Record: <code>v=spf1 ?all</code>
Mail can be sent from any server or mail exchanger listed in this domain file, but also from those listed for another specified domain.	Record: <code>v=spf1 +a +mx include: domain.tld -all</code>
No unique rules exist for this domain; check this other domain's record instead.	Record: <code>v=spf1 redirect=domain.tld</code>

If, based on your published SPF record, the Server ID verification process results in a pass, mail will almost certainly get through. If the result is a fail, expect clients to discard the message. Where a soft fail or neutral result is produced, the behaviour of the client is less predictable and the message may or may not be delivered. www.anti-spamtools.org

Skill level

Advanced

Requirements

Internet domain name

• DNS access.

Time to complete

1.5 hours (approx)

Inside info

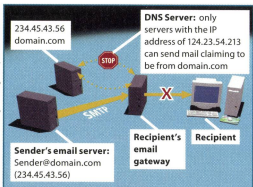
- Sender ID Framework www.microsoft.com/mscorp/twe/privacy/spam/senderid/framework.mspx
- SPF Rationale <http://spf.pobox.com/rationale.txt>
- SPF Frequently Asked Questions <http://spf.pobox.com/faq.html>
- Sender ID Policy Tool www.anti-spamtools.org
- RFC 1464 (DNS TXT storage) www.faqs.org/rfcs/rfc1464.html
- Yahoo! DomainKeys <http://antisipam.yahoo.com/domainkeys>

Yahoo! DomainKeys

Sender ID isn't the only game in town when it comes to protecting email. Webmail giant Yahoo! has put together its own version of spoof prevention that it calls DomainKeys, a system the company hopes will become an IETF Internet Standard. In the meantime, DomainKeys has already been rolled out to Yahoo's Webmail users.

The system is similar to Sender ID except that it employs digital signatures attached to each message. Each mail server uses a set of encryption keys to encode and decode the message signatures, verifying both the source and integrity of the content.

Source: The Anti-Spamming Working Group, December 2003



Got ID, mate? Sender ID verifies email server permissions to help reduce spam.

Know your limits

Exceeding your broadband ISP's download quota can cause excess data bills and frustration as speed caps kick in. **Stephen Withers** shows how to avoid nasty surprises.

Skill level

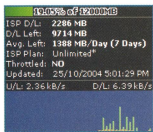
Intermediate

Requirements

Internet connection.

Time to complete

Between 1 and 8 hours, depending on what's implemented.



Keeping tabs: Usage Agent is one of several utilities for monitoring (and in this case logging) usage. The lower portion displays network interface activity.

With a little care and planning it's easy to make the most of a broadband quota: make sure the data limit is suitable for the workload, take advantage of any off-peak or unmetered traffic, track usage, and economise with a proxy server.

PLANS

First, ensure the plan you've signed up to is appropriate for your usage pattern. How much data will you really download in a month? Are you prepared to pay the often high cost for traffic that exceeds the quota, or would you prefer speed restrictions? It's hard to know the answer to the first question before you start using broadband, so new users should start with a speed capped plan to avoid nasty surprises when the bill arrives.

Can you take advantage of off-peak allowances? Off-peak periods are typically during the small hours, so only night owls benefit unless the computer is programmed to do the work while you sleep. Windows Update, for instance, can be scheduled to download and install updates at a specified time.

Offsite backup or replication is another candidate for off-peak operation. Utilities such as AutoFTP Free can upload and download files according to a schedule. This practice avoids impinging on normal use, and can reduce communications costs. If you're planning remote backup, beware of ISPs such as BigPond which meter traffic in both directions.

around 40% to the cost of each track you buy. Destra — the company behind online music sales through Harvey Norman, JB Hi-Fi, Sanity and other well-known Web retailers — has begun interconnect agreements with ISPs such as Swift to exclude such downloads from the quota.

Some ISPs provide additional categories of unmetered traffic. For example, Netspace doesn't charge for same state traffic, which is valuable for teleworkers or telecommuters and their employers (and in some situations, for offsite backups).

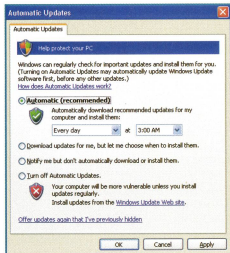
Unmetered traffic may extend to same state customers of other ISPs which participate in the same Internet exchange, such as those run by PIPE Networks. In NSW, participants include iNet, Internode, Netspace, Pacific Internet, Primus, Swiftbroadband and Westnet. The ABC is also a NSW participant, so residents of that state may be able to get unmetered access to all of its streaming content.

METERING

Your ISP should provide a way of tracking your usage, usually via a Web page, and it's a good idea to get into the habit of checking it regularly. How often you need to do that depends on how close to the limit you run, but it becomes more important towards the end of each billing cycle. Careful timing can make a difference to whether big downloads such as multi-megabyte applications, buying an album or watching a long streaming video fall into your free allocation rather than being counted as excess data.

Various utilities (including Usage Agent) are available to help you keep an eye on usage without visiting your ISP's Web site. A word of caution: if your ISP username and password are needed to fetch the data, you must decide whether you trust the utility to keep that information safe. That's not to say that any of the utilities are necessarily untrustworthy, but you shouldn't presume that any software is secure.

Either approach is fine if you're the sole user. But if several computers share one connection, consider monitoring the traffic each PC generates. Some routers record this information and make it accessible via an appropriate utility. For example, D-Link's DSL-504 can be interrogated by the third-party DSL-50X Utility to show, among other things, how much traffic occurred on each network port. You won't be able to distinguish between LAN and Internet traffic, but the utility should provide a clue to the identity of the download hog. Other routers may be able to deliver similar information to an SNMP-aware network monitor such as MRTG-XTRA or a log analyser such as Sawmill.

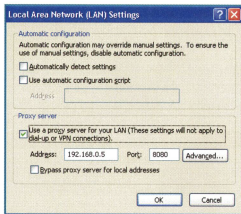


Overnight success: Automatic Updates can download and install updates during off-peak periods.

UNMETERED TRAFFIC

When choosing an ISP, it's worth checking whether unmetered traffic to particular servers is offered. This can be a valuable feature if you download lots of files available from the ISP's mirror, for example. Online gaming is another consideration: low ping times are very important, but game servers hosted by your ISP can also save you money if that traffic is unmetered. You're probably only looking at around 40 or 50 cents per hour on top of the monthly fee.

The arrival of legal commercial music downloading is another thing to consider. Paying 15 cents per megabyte for excess data adds



Point it out: once you've set up a proxy, you'll need to tell the computers to use it.

PROXY SERVER

A proxy caching server is worth considering if more than one computer shares your Internet connection and there is some overlap in the browsing habits of the various users. A proxy sits between your computers and the Internet, storing copies of requested Web pages and other files. If a request can be serviced from the proxy's cache, it doesn't have to be downloaded a second time. Imagine a proxy as a shared version of a browser's cache.

The amount of bandwidth that will be saved depends on the number of users, the extent to which they access the same pages, and how frequently those pages are updated.

The proxy needs to run on an always-on computer. If you've set up a PC to act as an Internet gateway, then that's an obvious home for the proxy. Linux is a common choice for this function, and Squid is a popular proxy for that platform. Packaged versions exist for Mac OS X, Red Hat/Fedora and Debian (and presumably other distributions), while SME Server (formerly E-Smith) provides a relatively easy way of installing Linux, Squid and other Internet-related applications.

Small, "appliance" routers (often with a built-in network switch and possibly an ADSL model) are popular for their low cost and simplicity. If you're using one, you'll need a different home for the proxy server. Depending on the workload, it may be practical to install the proxy software on an existing PC on your network. Otherwise, run it on a hand-me-down PC: performance is unlikely to be an issue.

If you aren't a Linux fancier, proxies for Windows include Microsoft Internet Security and Acceleration (ISA) Server 2004 and various third-party offerings such as WinGate.

Take care to configure the proxy correctly so it isn't accessible from outside the LAN, or you may find people at remote locations using it to cover their tracks.



Ad killer: Privoxy has blocked two ads in this window, replacing them with a checkerboard pattern.

Unless you're using a transparent proxy which physically intercepts traffic between your LAN and the Internet, you'll need to tell each Web browser to use the proxy. If you use Internet Explorer, open Control Panel > Internet Properties > Connections > LAN Settings. Check the box next to Use a proxy server for your LAN, and type in the proxy's IP address and port number. In Mac OS X, enter this information in the Proxies tab of the Network system preference.

PRIVOXY

Another way to reduce traffic is to block advertisements. If taken to extremes, this will deny revenue to your favourite sites and may put their existence in jeopardy, but if you're paying for traffic, you're entitled to decide what is or isn't downloaded.

Privoxy is a special-purpose proxy that avoids fetching items that it identifies as unwanted advertising. The rules are highly configurable, so you can ensure that ads are delivered from your favoured sites while avoiding the worst excesses of pop-ups and bloated animated ads. Privoxy can also be used to filter cookies — they don't make a significant difference to your traffic, but it's a useful feature if you're concerned about privacy.

Privoxy can service just the computer it's running on, or others on the same network. Either way, it can run in conjunction with a proxy caching server to get the advantages of caching and blocking. Over time, Privoxy's log file will grow quite large, so be sure to purge it regularly.

Staying within a quota can be difficult, but there are many ways of making the most of whatever your ISP allows. The more users there are on a LAN, the more you're likely to benefit from a proxy and other technical solutions. Just beware of over-investing your time and effort — sometimes it's more cost-effective to simply pay extra for a bigger quota. www.privoxy.org

Inside info

METERS

There are many freeware meters available, with more being developed all the time. You can find links to a selection of meters for popular Australian ISPs at www.apcmag.com/info/knowyourlimits. Alternatively, Whirlpool (www.whirlpool.net.au) is a good source of metering freeware. If you still can't locate an application that suits, try Google. You never know what you'll find.

SCHEDULED DOWNLOADING

- AutoFTP Free www.primasoft.com/ftp.htm

METERING

- Usage Agent <http://members.optusnet.com.au/usageagent>
- Sawmill www.sawmill.net
- MRTG-XTRA www.openextra.co.uk/products/mrtg-xtra.htm

PROXIES

- Squid www.squid-cache.org
- SME Server <http://contribs.org>
- WinGate www.wingate.com/product-wingate.php

AD/COOKIE BLOCKING

- Privoxy www.privoxy.org

Free DVD authoring, part 2

In this concluding Workshop on DVD authoring, *Daniel Winter* shows you how to create chapters, menus and burn it all to disc with freeware applications.



Bonus DVD software

DVCap 1.1.1 • DVIO 1.32
• WinDV 1.2.3 • Zwei-Stein
Video Editor 3.01
• VirtualDub 1.5.10
• BeSweet 1.4 • BeSweet
GUI 0.6 • VirtualDub
MPEG2 1.5.10 • QuEnc 0.59
• AviSynth_255 • IfoEdit
0.96 • DVDAuthorGUI
0.997.

Skill level

Intermediate

Requirements

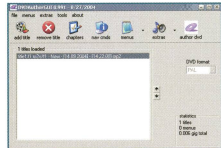
DVDAuthorGUI • image
editing software (such as
Gimp) • DVD recording
software.

Hardware

DVD writer

Time to complete

1 hour (approx)



1 The add title button gathers together the elements that will be combined in the finished DVD.

Part 1 of this Workshop (APC March, page 108) covered the preparation of audio and video for use on DVD-Video. This month's instalment explains how to add menus and chapters, and burn the project to DVD with freeware and open source apps.

BUILDING THE DVD

Install DVDAuthorGUI from this month's cover DVD on your hard drive. Launch the executable file and select PAL from the DVD format menu on the right-hand side of the application window.

1 Click the add title button in the toolbar and find the MV2 video file created during last month's Workshop. You'll then be prompted for an audio file. Select the AC3 or MP2 file that accompanies the video. If there are multiple video files to be incorporated on the DVD, add all of them this way.

ADDING CHAPTERS

DVD chapters are used to navigate to predefined sections of a video. To add chapters, select the title in the main list window, then click the chapters icon in the toolbar. The chapter window will appear, into which you can type the appropriate time code. For instance, if you wanted to set a chapter point five minutes into the movie, enter 00:05:00.00. The four pairs of numbers represent hours, minutes, seconds and frames respectively (a PAL DVD runs at 25fps).

2 If you aren't sure where you want chapter points, click the visual editor button to open the movie in a playback window. Pause the playback where each chapter should begin and click the add chapter button. When complete, the accept button will close the visual editor and transfer the chapter list back to the main window. Dismiss the chapter window by clicking OK. Now it's time to add the main menu.

ADDING A MENU

This involves creating an image to be used as the

background in the menu screen. Any JPEG image will do, but it must be 720 x 576 pixels (WH) — the resolution of PAL video. The menu image should contain a title and button regions for each of the titles and/or chapters you added to the list.

Once you have a suitable menu image, it needs to be encoded to MV2 format. In DVDAuthorGUI, select Create mv2 still from menus. If this process reports an error, try resaving the JPEG image with higher compression (that is, lower quality).

3 The encoded menu can be attached to the DVD using add new title set menu. Browse for the MV2 file and, unless you want to use a sound loop, cancel when prompted for an accompanying audio file. The title set menu window will appear; this is where button actions are defined. To create a new button, click add button and use the scrollbar sliders to set the position. The dimensions of the button are set by the sliders on the right-hand side, and colours and action using drop-down boxes also located on the right. Pixel-accurate button regions can be specified using the advanced checkbox. Once all buttons are created, click accept to return to the main window.

EXPORTING A DISC IMAGE

To compile your DVD, click the author DVD button and select a destination folder. Unless you're using a program that natively supports DVD-Video recording such as Nero Burning ROM, you'll need to select create ISO after authoring from the file menu first. This will instruct DVDAuthorGUI to create a disk image that can be used with any ISO-compatible DVD recording application. DVD Decrypter (www.dvddecrypter.com) supports this feature. If you don't use ISO, DVDAuthorGUI will create VIDEO_TS and AUDIO_TS folders that can be burned directly to disk.

BURNING TO DVD

Install and launch DVD Decrypter. Select Mode > ISO > Write from the top menu (or type W). Click the folder icon to browse for the ISO file. Insert a blank DVD disc and click record to finish.



2 The add chapter button allows you to choose the location of chapter breaks right down the frame.



3 The add new title set menu is the location where button actions are defined.

UNLIMITED BROADBAND 1.5Mb

WITH 300 MINS P/M
FREE PHONE CARD*
STD & INTERNATIONAL

\$49.95*
Monthly inc gst

+ Free USB ADSL Modem excludes ADSL Transfers, optional \$10 delivery fee applies, TPG Broadband is available nationwide, excl. Tas, subject to availability. Visit www.tpg.com.au for full terms and conditions. **1.5Mb Value Unlimited/15G** : * Conditions apply including minimum 6 month plan, paid monthly in advance, once-off \$129 setup fee. Total minimum cost for first 6 months is \$428.70. Purchase by Credit Card only. *Conditions apply. **Free Phone Card Offer**: Available for limited time with successful registration of 1.5Mb Value Unlimited/15G Special Offer Virtual Phone Card plan, excl. current TPG customers. Total number of 'Free Phone Card' minutes available is 1800mins, allocated at 300mins p/m, for first 6 months of 1.5Mb Value Unlimited/15G Special Offer Virtual Phone Card plan contact. Offer applies to calls to fixed line phones only. Unused 'Free Phone Card' call allocation p/m not carried forward to the next month's free phone card call usage. Each 'Free Phone Card' call is charged as a 10min increment from the time of connection and then thereafter at 1min increments from the start of the 11th min. Offer only available for calls to select intercapital and international destinations, displayed at www.tpg.com.au/vccard. Telephone connection charges to TPG Virtual Phone Card gateway are Customer's responsibility. TPG will initially debit the Customer's credit card \$20 after successful registration of 1.5Mb Value Unlimited/15G Special Offer Virtual Phone Card plan, for calling credit outside stated 'Free Phone Card' call zones. Unused credit expires after 12 months of purchase. See www.tpg.com.au/vccard for full terms.

Sign up to TPG's 1.5Mb Value Unlimited/15G plan and for a limited time receive **300 minutes per month of FREE PHONE CARD CALLS*** anytime of the day to over 35 National and International destinations!

SIGN UP NOW TO START SAVING IN CALL COSTS!

- **FREE USB MODEM***
OR \$59.95 - 4 PORT ROUTER
- **UNLIMITED~ DOWNLOADS**
Generous 15GB Downloads. ~After 15GB speed throttled to 64k.
- **FREE SPAM & VIRUS FILTERS**
- **5 EMAIL ADDRESSES**



2nd Largest Australian Owned
ADSL PROVIDER

WWW.TPG.COM.AU

1300 360 855



**TPG WIDESCREEN
& WIRELESS NOTEBOOK**

Call 1300 654 758

Buy Online: www.tpg.com.au/online

\$1,398

unbelievable price !

- AMD Sempron™ 2600+ Processor (25W)
- 512MB RAM ■ 40GB HDD ■ DVD RW Drive
- Windows XP Home ■ FREE WIFI (PCMCIA)

Inc GST. By Delivery only. Standard fee \$99. Payment via BPAY, Direct Deposit or Cheque

Running on the spot

Creating an autorun menu for a data CD or DVD simplifies the navigation of its contents. *Daniel Winter shows you how it's done with an image editor and a free menu building app.*



Bonus DVD software

Quick Menu Builder 1.31
• CDBurnerXP Pro 3.

Skill level

Beginner

Requirements

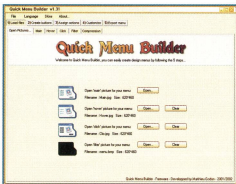
Image editing software
• Quick Menu Builder 1.31
• CD/DVD recording software • CD/DVD recorder.

Time to complete

1-2 hours (approx)

Inside info

■ Example menus
<http://quickmenubuilder.free.fr/MenuEn.php>
■ QMB Forum
<http://forum.quickmenu-builder.com>



Easy menus: Quick Menu Builder has a tab-based interface which simplifies the menu creation process.

So, you've created a great disc of digital content to give to a non-geeky friend or relative. You've spent hours editing video and creating elaborate image galleries, but given their lack of tech nous, it's not guaranteed they'll be able to get the CD up and running. With a few steps it's easy to add an autorun feature to your discs so each will automatically launch a menu when inserted.

This Workshop demonstrates how to create a customised menu with buttons that link to files, folders and applications. The sample menu created here uses four video files as the button actions, but any kind of document or program can be used as the target for each button.

DESIGN THE MENU INTERFACE

The freeware application Quick Menu Builder 1.31 (included on this month's cover DVD) was used to create the menu. QMB doesn't have any graphic design capabilities, so if you want a menu with a graphical interface rather than standard Windows-style buttons, you need to create it first. Any image will do for the menu background, from a simple block of colour to a photo downloaded from a digital camera.

Use an image editor such as Adobe Photoshop, Jasc Paint Shop Pro or Gimp to add any buttons you need for the menu. This can be as simple as a few lines of text (with each line acting as a button) or as complex as a 3D interface.

To ensure the menu will display on most screens, keep its dimensions below 640 x 480 or 800 x 600 pixels. My example menu (above right) was created in Photoshop and contains six button regions. It consisted of four video screenshots that were linked to video files, while the two text buttons in the centre were used to install the DivX codec and exit from the menu.

Although a single image is the minimum required to create a menu, additional pictures can be used to add mouse rollover and click effects. These additional images should show the menu with all buttons in their active rollover and clicked states. For instance, if the static menu image had white text links as buttons, the rollover image might show underlined red text. A glow effect might be used as the

clicked state in the third image. Once these images are constructed, save them in JPEG format and load Quick Menu Builder.

The interface to QMB includes five buttons in the top toolbar which represent the five stages of this Workshop. To get started, click the button labelled 1) Load files. Load the desired images by going to the Open Pictures tab and using the Open buttons. For now, ignore the Filter picture option, as this is used to create custom window designs (see "Creating custom windows"). These images can be previewed using the Main, Hover and Click tabs under the toolbar. Feel free to experiment with the image quality settings in the Compression tab, but the default settings should be adequate. With the menu images configured, it's time to add the button regions.

CREATE THE BUTTONS

Click 2) Create Buttons in the toolbar. This displays the button editor, which provides very basic tools on the right-hand side for setting the name and location of each button in the menu. Click on the Add button, and drag the highlighted square that appears over to a button region in the menu design. When the selection is placed correctly, enter a name for the button and continue adding regions for the other areas of the menu image.

When all the buttons in the menu design have regions associated with them, each with a name, they are ready to be assigned actions. Actions are triggered when the user clicks the mouse on a button, and they usually entail opening a program or document contained on the disc.

ASSIGN BUTTON ACTIONS

Hit 3) Assign actions in the toolbar. This reveals a window with a list of the entire menu's buttons down the left-hand side, and a selection of button properties on the right. The first item in my example menu was called InstallDivX, and ran the DivX codec installer from the disc when the button was pressed.

To configure an action, click the button name in the list and select execute from the Button action drop-down list. Next, click the Action tab below the drop-down to reveal the relevant options for this action. In my case, the file to be executed was called DivX412Codec.exe and had to be located in a folder called Setup in the root directory of the disc. As QMB uses MenuDir\ to represent the root of the current disc, the file location for this action needs to be:

```
MenuDir\setup\DivX412Codec.exe
```

This particular application doesn't require command line options, but they can be added in the Parameters text box if necessary. Other options

available here include the choice to close, minimise or maximise the menu when the button is clicked. In this case, the menu can be left open.

Other actions that can be used for buttons include Close, which is used for the Exit Menu button, and Open Media File, which can play audio and video files. In my example menu, this action was used to play the four video files, and the parameters list provides the option to use either Windows Media Player or the default system media player. In both cases, video files can be configured to run in full screen mode or in a window.

At the top of this screen there is the option to change the button style. The default value for the Button style drop-down is Picture roll-over, but it's also possible to use Picture morphing to animate the transition between the button states. Standard Windows buttons can also be used, eliminating the need to use graphical buttons altogether. So, if a menu consisted of a photo or block of colour, this option should be used for all the buttons. Alternatively, the Show as caption checkbox will display the button text superimposed over the background image. The font for this text can be set in the Font tab.

To add sounds to a button, use the Open buttons to browse for MP3 or WAV files to be associated with rollover and click actions. To use standard Windows sounds, browse to C:\Windows\Media. Hints can also be added here to provide the user with pop-up help when the mouse rolls over a button. The last three tabs — Hover, Click and Leave — are used to configure actions triggered by the current button. This can be used to control background music (see the next step) as well as show and hide button regions (especially useful for on/off switches).

CUSTOMISE TO TASTE

Once all the buttons are configured to perform their relevant actions, click 4) Customize. This section provides options to add sounds, icons, cursors, a splash screen and some window display settings.

In the Sounds tab, files can be assigned to be played on startup, button rollovers and mouse click events. An MP3 file can also be used as a background sound, which can be looped (note that a button can be used in Step 3 to turn the background sound on and off). The Icons tab lets you assign an icon to the application, which will be displayed in Windows Explorer. Cursors can also be set, but you need to use an existing ANI or CUR file for this to work.

The Hints tab configures the display options for any hints that have been assigned to buttons. The default fonts used by Windows can be used, or custom settings can be configured. The Appear time and Show time values set the number of milliseconds before a hint is displayed and determine how long it remains visible. The Transparency tab is used to create fade effects and window opacity, which is only supported by Windows 2000 and XP.

The Mode settings define whether the menu window contains a border and is to be displayed full screen. It's also possible to specify X/Y coordinates for the desired onscreen location of the menu. The Splash tab lets an image or video be configured to display prior to the menu, with options for the timeout duration and window opacity. Lastly, the Author tab can be used to set About properties for the menu, such as contact details and information about the disc and/or menu.

EXPORT THE MENU

Go to 5) Export menu to bring up the last page of options for the menu. This is QMB's only configurable tab, which is where the Window title needs to be set and the checkbox underneath ticked. The menu title configured here will be displayed in the Windows taskbar, even for full-screen or borderless menus.

Meanwhile, the checkbox instructs QMB to create the autorun.inf file that loads the menu when the disc is inserted. Select a folder where you want to save the menu and click Export to create the files. Alternatively, the Preview button can be used to check the end result before committing it to disc.

BURN TO DISC

Once the menu is complete, the Menu.exe needs to be added to the disc project along with the autorun.inf file. Both of these files should be located in the root folder of the project. Any files used by the menu (such as graphics and sounds) should be stored in a folder named src, which also needs to be copied to the root of the new disc.

Windows will automatically run autorun.inf from the root folder when the disc is inserted. The structure is as follows:

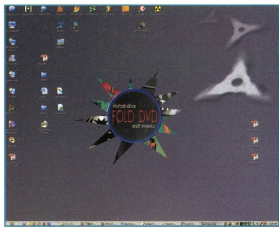
[Autorun]

Open=Menu.exe

This tells the PC to execute the program called Menu.exe from the disc when inserted.

If you're using Nero Burning ROM or CDBurnerXP, drag these two files and one folder onto the disc window of the application to add them to the project.

If you have turned off auto-insert notification in Windows, the menu won't automatically display on your computer. Ultimately, the option to execute autorun applications is a configuration setting that you can't override, in which case adding written instructions to the CD/DVD cover might save your hard work from going unnoticed. [FIG 6](#)



Play school: the finished menu after applying a filter bitmap to change the shape of the window.

Creating custom windows

By default, any menu application created in Quick Menu Builder will appear in a rectangular window. For more advanced menu designs, QMB can also be used to export a menu that has a customised shape. This feature is available via the "Filter picture" option in the Open pictures tab of this Workshop (see Step 1).

The filter picture must be a 1-bit bitmap (BMP) image, which works like a cookie cutter on the other three menu background images. Black designates the area to be used by the menu window (the cookie), and white is used to fill the area outside the shape. The image shown here demonstrates a filter picture to create a menu in the shape of an explosion.



Shape shifter: QMB can also be used to export menus in customised shapes.

Pocket cinema

Hardware and software advances are making it easy to play movies on a PDA. Anthony Caruana ushers you into the pocket cinema.

Modern PDAs are as powerful as the desktop PCs of just a few years ago. This grungy combined with the VGA resolutions some handhelds now feature makes it possible to use your Pocket PC or Palm device as a mobile cinema.

There are a few different ways to get a DVD onto a PDA. One-click solutions such as Pocket-DVD Studio (US\$32; www.pqdvd.com) allow you to put a DVD in your drive, click Open DVD and press Start. A few hours later you'll have a movie file that can be transferred to your device for playback.

DVD to Pocket PC (US\$29.95; www.makayama.com) does the same job, and a Palm version of this app will be available soon.

You'll need to increase the storage on your PDA with an SD or CF card and get a card reader if you don't already have one — this is the fastest way to get movies onto your device. If you're using a Pocket PC, remember to create a My Documents folder on the card as some applications can't find data unless it's in this folder. ActiveSync and HotSync do work, but they're far slower.

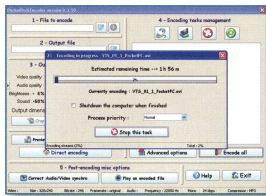
GET RIPPED

If you don't want to buy an automated solution you can achieve the same results for free. However, you'll need to use at least two applications and press a few buttons along the way.

The first step is to rip the content of a DVD to your PC's hard drive. You'll need about 7GB of free space. To begin, install DVD Decrypter (www.dvddecrypter.com), then insert your home movie disc, select an output folder on your PC and start the ripping process. This should be completed in about 30 minutes.

Now the file can be converted to DivX with PocketDivXEncoder (on the cover DVD). This is the format of choice in this Workshop as it's compact but with good sound and video quality.

Launch PocketDivXEncoder and choose your device type from the pop-up window. This ensures that the file created is optimised for your display, as different PDAs run at different resolutions. Then



Make a convert: PocketDivXEncoder can be used to convert movies for handhelds.



Bonus DVD software

- Pocket-DVD Studio (trial version) • DVD to Pocket PC 2.0 (trial version)
- PocketTV 1.0.3
- PocketDivXEncoder 0.3.50
- Pocket DivX Player
- MMPlayer 0.2.14.

Skill level

Intermediate

Requirements

PDA with at least 128MB of free storage space (256MB or more recommended) • 8GB of free space on PC • card reader (recommended).

Time to complete

2-8 hours (CPU dependent)

Inside info

■ WMV for PPC Encoding Guide
<http://percentfamily.com/speedzone/vld.html>

Straight from the source

EOPs Technology's P-01 TV CF Card (HK\$1,340 — approx \$220; www.eopstech.com) makes it possible to watch TV on a Pocket PC or notebook, and it even connects to a VCR or DVD player (a list of compatible models is on the EOPs Web site). The card has a limited ability to receive a TV signal due to its small antenna, but it also has coaxial aerial and RCA inputs through the provided cable converter. While it does have limitations, it can do the job if you have a device with CF support.

choose the file you want to encode. This will be a VOB file in the folder that you ripped the DVD to. If there are multiple VOB files, choose the largest one. The first audio stream listed is usually English, so choose that unless you'd prefer another language.

Once the input and output are sorted, press the Add to the list button. If you want to process multiple movies just repeat this process. Once this is complete, hit the Encode all button. Depending on your PC's processor, this can take from two to eight hours for a 90-minute movie.

When the conversion is complete, copy the outputted AVI file to your storage card.

PLAYBACK TIME

As DivX is an open standard, players are plentiful and free. For the Pocket PC we recommend either Pocket DivX Player (on the cover DVD) or BetaPlayer (<http://betaplayer.corecode.org>). Although neither has yet reached a 1.0 release, both are stable. For the Palm the most popular player is MMPlayer (also on the cover DVD).

If you're a Pocket PC user converting home movies created using Windows Movie Maker, you can use Windows Media Encoder 9 Series (www.microsoft.com/windows/windowsmedia/9series/encoder/default.aspx) to convert almost any format that will play on your PC to Microsoft's WMV format. If you prefer to use Windows Media Player on the Pocket PC, you can use this tool to convert your DivX files. However, make sure you create the source DivX with no compression in order to conserve movie quality.

Playing video is one of the most battery intensive operations a PDA can perform, as the processor, video and sound systems are all taxed heavily. If you plan to watch lots of movies while travelling, start with a fully-charged battery and pack a spare or an extender. [E113](#)

Think ink

Get more out of the most popular design application around with
Photoshop expert **Matt Davis**.

When playing with the arsenal of filters, layer styles and colour tools Photoshop offers, it's easy to overlook the basic ground rules the final printed file must adhere to. Wild filters, styles and layer effects can cause serious problems when the file goes to press. Ripping, flattening, ink weight, low resolution, profiles and spot separation are some of the many problems that can cause serious downtime or expense when your masterpiece has to be revised and resent. By taking the time to check a few figures, you can get your file right first time, every time.

THE INFO PALETTE

The Info Palette tool monitors the ink weights of the image file, allowing you to see what's happening with the ink percentages while the work is in progress. If you're working on a file intended for print, the primary palette should be set to CMYK and the secondary palette to total ink. This is easily done by clicking on the palette's eyedropper icons (circled in red in the image above) and changing the default settings.

The percentage figures circled in green next to the eyedropper icon indicate the ink percentage of each CMYK channel. The second green circle shows the combined total of these percentages — the total ink weight. If this image were sent to a prepress house for film or plate, it would be rejected as the total ink weight exceeds the recommended maximum ink density.

Awareness of the totals in the Info Palette is a powerful asset. By understanding the numbers, it's possible to visualise the final output without costly proofing.

Take skin tones, for instance. A good skin tone has barely any Cyan in the mid-tones, and the Magenta levels shouldn't be too similar to the Yellow percentage. Cyan and Black muddy the final output if the levels are too high. An experienced Photoshop user can adjust tones simply by changing the levels in the Info Palette.

THE EYEDROPPER TOOL

The multipurpose Eyedropper tool complements the Info Palette. When run over an image, the Eyedropper tool provides the Info Palette with all the necessary readings to work out the CMYK ratios and total ink density. It's invaluable when colour matching, sampling and checking densities. Setting the Eyedropper tool to 5 by 5 Average (the averaged ink reading of the surrounding five pixels) gives a

more even reading compared with the Point Sample reading (one pixel).

THE PERFECT DROP SHADOW

Drop shadows cause more output problems than most other effects and styles. By nature, they add ink over the image in a variety of layer styles.

Take a standard drum scanned image that's been under colour removed to meet, say, a Web offset press ink density limit of 300%. The three quarter tones will all range above 270% to the maximum 300% ink density. If a Multiply black drop shadow is added at 100%, the image will break maximum ink density.

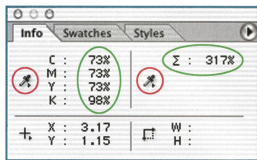
A perfect 299% ink weighted drop shadow can be constructed by manually building or converting the existing Layer style. The graphic will default to the Multiply setting. Change the setting to Normal, then alter the drop shadow's colour to 66% Cyan, 66% Magenta, 66% Yellow and 100% Black — a neutral black. The total ink density of this colour is 299%. Thanks to the Normal Layer style, the drop shadow will knock out the image and output a true, print-perfect drop shadow.

The visual impact of an image can be maximised by adjusting the colour mix of the drop shadow. If you have a golden coloured image, for instance, add a hint of gold in the drop shadow. Change the base colour to, say, 38% Cyan, 66% Magenta, 95% Yellow and 100% Black. The heavier influence of Yellow and Magenta will give it a warmer appearance. And it's still 299% ink weight perfect.

Saving the graphic and shadow using transparency (as a Photoshop native PSD file) also solves the problem of Multiply not properly overlaying in InDesign 2.0.2 and CS separations. Don't even think of using this format with QuarkXPress; you'll have to build the entire graphic image in Photoshop as Quark doesn't support transparencies.

THE DRUM SCANNED IMAGE

Most reprographics houses supply drum scanned images with around 330 to 350% ink densities. However, unless the scanner operator applies a profile or converts the ink balances before supplying, you will have to do under colour removal yourself. bit.ly



Palette-able: the Info Palette offers an ink weight health check.

Matt Davis



Professional Secrets is a new feature of APC's Workshop

section, and it launches with a selection of top Adobe Photoshop tips from Matt Davis, the studio manager for advertising agency DDB Melbourne.

In charge of all art production at the agency, Davis has produced all manner of above and below the line advertising, from direct marketing and point of sale to high-end magazine and outdoor work. His expertise with Adobe, Quark and Apple products has made him an industry guru.

Skill level

Advanced



Not so average: the 5 by 5 setting is an ideal sample size.

Serving up mail

Anton Tomazin and Caroline Leming demonstrate a messaging solution for Linux (and Windows) that's easy to set up and use.



Bonus DVD software

Linux Source install
(atmailwebmail-unix.tgz)
• Windows install
(atmail4-webmail-apc.exe)
• Linux RPM install
(atmailclient.rpm) • Plug-in for Microsoft Outlook
(webmail-sync-404.msi).

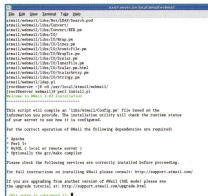
Skill level Intermediate

Requirements

A Linux PC with MySQL Libraries installed • Apache Web Server • Perl with the Perl DBI module, Perl DBD::MySQL module, Perl Time::HiRes module and Perl Apache::DBI module • correctly configured DNS.

Time to complete

1 hour (approx)



1 Setting up @Mail is straightforward thanks to its comprehensive menu system.

Setting up a mail server can be daunting when confronted with complex and cryptic configuration files. And if you want more than email from your server, installing additional software packages and ensuring their smooth integration can make the job much more challenging.

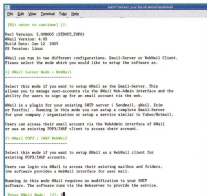
Calacode's @Mail is a full featured messaging solution that makes setting up a mail server in Linux or Windows a breeze. The software includes a full Webmail interface and supports POP3, IMAP and SQL mailboxes, plus groupware and more.

The groupware support included with @Mail gives administrators the ability to share address books, calendar items and tasks with other groups of users, making it a worthy rival to programs such as Microsoft Outlook. It can be used as a simple Webmail client to access existing POP3 or IMAP mailboxes, or as a complete email server that uses the Exim Mail Transport Agent (MTA).

This Workshop demonstrates how to set up @Mail as a complete messaging solution for Linux. This month's cover DVD carries the TGZ source, RPM and Windows versions, and directions for installing the versions not demonstrated here can be found at <http://support.atmail.com>. For the purposes of illustration, @Mail is configured in a Server mode.

INSTALLATION FROM SOURCE

Installation of @Mail is relatively straightforward. Using the RPM pre-compiled binary version is highly recommended as this makes sure you have all dependencies and prerequisites. In this Workshop, the installation from source was used to demonstrate the process without specific reference to any particular Linux distribution.



2 At this point, @Mail gives you the choice of setting it up as an email server or Webmail client.

Ensure you have MySQL libraries installed (available from www.mysql.com). The Apache Web server is also required, but this is included by default in just about every Linux distro available. Perl 5.6+ is recommended with the Perl DBI module, Perl DBD::MySQL module, Perl Time::HiRes module and Perl Apache::DBI module. These modules can be automatically installed using @Mail's install script.

One often overlooked prerequisite for any email server is to have DNS correctly configured. There are many records in a DNS configuration, but the most important for setting up a mail server are the A and MX records. The A record converts a hostname to an IP address (your mail server), the MX record tells it where to send all mail for a particular domain:

```
mail.mydomain.com A XXX.XXX.XXX.XXX
mydomain.com MX mail.mydomain.com
```

In this example, the real IP address of the mail server is XXX.XXX.XXX.XXX and all email that has @mydomain.com in the address will be sent to mail.mydomain.com.

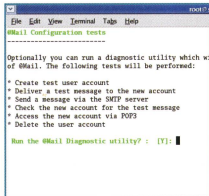
1 Now that all the prerequisites and dependencies are out of the way, open the package by typing:

```
tar -zxvf atmailwebmail-unix.tgz -C
/usr/local/
```

The atmailwebmail-unix.tgz archive has the directory structure already set up and as a consequence, @Mail must be installed under the default /usr/local/atmail/ pathname.

Change into the /usr/local/atmail/webmail/ directory:

```
cd /usr/local/atmail/webmail/
```



3 The application's diagnostic utility runs all the tests needed to be sure the configuration is right.

Execute the following command:

```
perl install.pl
```

This command brings up a menu which makes installation easy. You can use the default settings for just about everything, and the installation scripts correctly configure the relevant files.

2 The script lists the already mentioned dependencies. Hit Enter to continue and select 1) @Mail Server Mode + Webmail.

This establishes @Mail as the email server. To set up @Mail to access only existing POP3 and/or IMAP mailboxes, select option 2 and follow the prompts. To successfully install @Mail, you'll need to know the location of the Apache configuration directory. If Apache was installed by default with your chosen distro, it's probably in `/etc/httpd/conf/`. The script will automatically update the Apache configuration file `httpd.conf`. Continue following the prompts, choosing the default options if you're unsure of anything.

3 At the end of the installation process, a diagnostic utility can be run to test the configuration. Alternatively, run the test later via the WebAdmin interface in the Maintenance section. The diagnostic utility completes the following tasks:

- Creates a test user account.
- Delivers a test message to this new account.
- Sends a message via the SMTP server.
- Checks the new account for the test message.
- Accesses the new account via POP3.
- Deletes the user account.

To start the @Mailserver, type:

```
/etc/init.d/atmailserver start
```

To stop the service, type:

```
/etc/init.d/atmailserver stop
```

CONFIGURATION

4 Once the installation is complete, the server is configured via a WebAdmin interface. Point a Web browser to: <http://yourlinuxserver.com/mail/webadmin/>.

The main section areas are listed at the top of the page, with the subsections listed on the left.

First, create an access password by going into the Security > Admin password menu. Using the WebAdmin interface you can create new email accounts, gather statistics and configure the groupware support.

To create a new email account go to Users > Add User. Enter all the relevant details, such as User Login and Password, click the Add User button and it's all

done. Assuming the option was selected, the new user will also receive a welcome message, which can be configured under Config > Branding. If you missed something, an error message will appear to let you know what to do.

Changes to the configuration are typically done on-the-fly, and generally don't require the service to be restarted. However, if you do need to restart the relevant services, this can be done by typing:

```
/etc/init.d/atmailserver restart
```

CLIENT CONFIGURATION

You can either use your favourite email client, or use the Webmail functionality. Using Webmail is as simple as pointing a Web browser to <http://yourlinuxserver.com/mail/> then logging in and using the Web interface. Make sure you allow pop-ups for the Webmail site, as the main email page displays as a pop-up. A link is offered that brings up the main interface if you don't want this. From here you can send and receive email, schedule appointments in the calendar and create tasks. Many other settings, such as Folder Management and Mail Templates, can be tailored to your liking under the Utilities section.

If you're using an email client, enter the name or IP of your Linux mail server as the POP3/IMAP and SMTP server. You should now have a fully functional @Mail email server.

For troubleshooting information, always check `/var/log/messages`. There's also a help button in the WebAdmin section that provides plenty of useful tips and information.

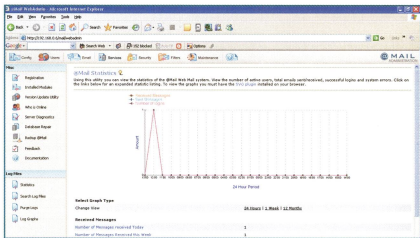
There are more options on setting up @Mail for your messaging needs. These include creating an online mail server that allows online account subscriptions, much like Hotmail or Yahoo! Mail. The software can also integrate with wireless devices which support WML and/or WAP/HTML. [HTML](#)

Antivirus and spam filtering

By default, @Mail installs Clam AntiVirus (www.clamav.com) for antivirus scanning. Spam filtering using SpamAssassin is also included (<http://spamassassin.apache.org>). The installation and configuration of these packages was illustrated in APC November 2004 (page 112). These crucial features can easily be configured with @Mail's WebAdmin interface.

Inside info

- The @Mail Web site <http://atmail.com>
- The Exim MTA's home page www.exim.org



4 The WebAdmin interface completes configuration.

Mastering Linux, part 5

Jarrod Spiga returns to the command line console to explain some of its more advanced functions.

In part 3 of this series (APC February, page 98), we provided an introduction to the Linux command line console, but it's useful for so much more than managing data.

TEXT EDITING

Editing text files is one of the most fundamental tasks you can perform under Linux for a multitude of reasons. For instance, almost all configuration and script files are text files of some description.

The lightweight vi application is one of the more popular text editors under Linux. You can start it by entering `vi`. Launching vi in this manner will display an almost blank screen, allowing for the creation of a new file. However, most users find it's easier to launch vi by passing the name of the file they wish to create or edit as an argument to the command:

```
vi ~/readme.txt
```

1 If you're editing an existing file, vi displays the contents of the beginning of that file on all lines of the screen except the last. This line is reserved for information about what's happening within the application. On loading a file, the bottom line will display the name of the file, how many lines and characters it contains, the line and column position of the cursor and any other detail it can provide (if you're at the top of the file, for instance).

MODES OF OPERATION

When vi is loaded, it runs in command mode. Instead of being included in the document, any text entered will appear at the bottom of the screen and be interpreted by the application as a command. Command mode allows you to run various commands, browse the document and perform other functions.

2 In order to make changes, you'll need to put vi into insert or replace mode. Switch to insert mode by pressing the Insert key. Hitting Insert again will switch you from insert mode to replace mode.

You can enter text in either insert or replace mode and it will appear inside the document where the cursor is located.

When you reach the end of a line on the screen, your text will appear on the next line — but don't be fooled, a carriage return hasn't actually been entered. In other words, if you filled the entire screen with text and didn't press Enter once, your document would just be one very long string of text.

COMMAND MODE

When you've finished changing your document, press the Escape key to return to command mode. Here's a list of frequently used commands:

Command	Action
Left arrow or h	Moves the cursor one character to the left
Right arrow or l	Moves the cursor one character to the right
Up arrow or k	Moves the cursor up one line of text (not one line on the display)
Down arrow or j	Moves the cursor down one line of text
dd	Deletes the line that the cursor is on
d<number>	Deletes the number of characters under and to the right of the cursor
Insert or i	Insert mode
r	Replace mode
/<string>	Find the next occurrence of the search string in the file
:<number>	Go to line number
:w	Write file
:q / :q!	Quit vi/Quit vi with override
:help	Displays help screens

SAVING AND EXITING

Saving changes you've made is easy, just enter `:w` from command mode. To save the changes under a different filename, specify that name after the write command (e.g., `:w savesave.txt`).



Bonus DVD software

A PDF containing a more detailed version of this Workshop.

Skill level

Beginner

Requirements

An installation of Linux (Fedora Core 3 was used for this article).

Time to complete

3 hours (approx)

In this series . . .

Part 4 — Mar 05

The X Windows desktop

Part 5 — Apr 05

Working the console

Part 6 — May 05

Applications

... and more

```
~/readme.txt [New File] 0,0-1 All
```

1 The vi editor in command mode with a new file buffer open. Press Insert to start entering text.

```
this is some random text that we are putting in the document just to make people think that there's more and look at in their picture than just a blank screen.
```

```
Oh, and did you notice that there is a space before the word "think" there? That's because there is no actual word wrapping in vi, and you have to make sure a return when you want text to go on to a new line. Even though this paragraph now goes over four lines in the vi editor, this paragraph will actually be on one reasonably long line once it is saved.
```

```
-- INSERT -- 3,140 All
```

2 Insert mode allows you add text into the file. Replace mode also acts in a similar fashion.

2 In order to prevent accidental data loss during editing, vi won't let you exit unless you've saved any changes made to the file. After saving the file, vi will allow you to exit if you issue the `:q` command. To exit without committing your changes to disk, enter `:q!`.

GROUPING FILES ON THE COMMAND LINE

A number of wild-cards can be used to group files together on the command line instead of typing out multiple commands holding small pieces of information, such as:

```
mkdir docs
mv document1.txt docs
mv document2.txt docs
mv document3.txt docs
```

You could use an asterisk (*) mask to select all files that match a certain pattern (in this case, all files ending with .txt):

```
mkdir docs
mv *.txt docs
```

When the command shell processes the second line, it substitutes *.txt with all files that end with .txt.

The asterisk isn't the only character that can group files. Below is a table containing frequently substituted characters.

Pattern	Effect
*	Matches any amount of any characters
?	Matches one of any character
[a-d]	Matches a single character in the range of a through d. I.e. a, b, c or d
[abc]	Matches a single character from the list provided

This table shows sample commands and their effects:

Command	Effect
<code>rm *.txt</code>	Deletes all files ending with .txt
<code>Rm d*.txt</code>	Deletes all files beginning with d and ending with .txt
<code>Rm document?.txt</code>	Deletes all files starting with document, with a single character following, and ending with .txt
<code>Rm [b-f]rat.txt</code>	Deletes brat.txt, crat.txt, erat.txt and frat.txt
<code>Rm [jkl]*</code>	Deletes all files beginning with j, k or l
<code>Rm ?</code>	Deletes all files with one character in their filename

EXPANSION CONTROL

So, what happens if you want to create a file or directory that contains an asterisk, question mark or bracket? These characters aren't reserved and can be used in file and directory names, although it's a little tricky.

In order to use these characters, you need to quote your proposed filename inside either single or double quotation marks:

```
Touch 'why?'
```

Be wary of using these characters in filenames because you'll have to remember to encapsulate the filename in quotes every time you refer to it.

LOOKING FOR STUFF

In the past, you've used the `ls` command to generate listings of all of the files in a directory. If you needed to search the file system for a particular file, you could generate a directory listing for all of the locations where you suspect the file may be, but this would be tedious and you still may not find it.

Because Linux has many small tools to perform small functions, it's no surprise that there are a few searching tools available. The `find` and `locate` tools both allow you to track down files, but work in very different ways.

LOCATION, LOCATION

Your Linux system is scheduled to perform maintenance on the file system and its applications on a regular basis. One of the tasks it performs during this maintenance is to update a system database of all files on your system and where they're located.

The `locate` command will search this database for the filename or filenames (perhaps using wild-cards) you nominate, and return the full path to all files matching the supplied criteria. For example, to search for all files ending with .txt on your system, use:

```
locate *.txt
```

FINDERS KEEPERS

The `find` command effectively performs the same function, but uses a completely different methodology. When run, it manually searches the file system for results that match your criteria and then displays them.

The syntax for the `find` command is somewhat more complicated — you need to supply a search location, the search criteria, and an argument stating what you want to do with the output of the command. In order to get the results printed to your screen in the same way as the `locate` command, use the following syntax:

```
find location1 [location2 ...] -name criteria -print
```

The `find` command will then search the `location1` directory and all subdirectories (as well as `location2`, if specified) for files that match the criteria. Finally, the result is

With some random text that we are putting in the document just to make sure that there's more to look at in this picture than just a blank screen.

Oh, and did you notice that there is a space before the word "Oh"? That's because there is no actual line wrapping in vi, and you have to enter carriage returns when you want text to go on to a new line. Even though this paragraph now goes over four lines in the vi editor, this paragraph will actually be on a reasonably long line much of its length.

And now, we'll add some more text before we save this thing.

```
h [ohh] i smiley face!!!
```

```
o o o
```

```
o o o
```

```
SMILE ME, RUN MY ASCII art skills are inferior, !!
```

```
h [ohh] i smiley face!!!
```

```
o o o
```

```
o o o
```

```
SMILE ME, RUN MY ASCII art skills are inferior, !!
```

```
h [ohh] i smiley face!!!
```

```
o o o
```

```
o o o
```

```
SMILE ME, RUN MY ASCII art skills are inferior, !!
```

```
h [ohh] i smiley face!!!
```

```
o o o
```

```
o o o
```

```
SMILE ME, RUN MY ASCII art skills are inferior, !!
```

```
jaspin@fedora ~$ vi sample.txt
```

```
[1]+ Stopped vi sample.txt
jaspin@fedora ~$
```

4 You can suspend most tasks at any time by pressing `Ctrl+Z`. The job number corresponding to the task that you've just suspended is in brackets.

```
jaspin@fedora ~$ vi sample.txt
```

```
[1]+ Stopped vi sample.txt
jaspin@fedora ~$ vi sample2.txt
```

```
[2]+ Stopped vi sample2.txt
```

```
jaspin@fedora ~$ jobs
```

```
[1]- Stopped vi sample.txt
```

```
[2]+ Stopped vi sample2.txt
```

```
jaspin@fedora ~$
```

5 The `jobs` command can be used to get a list of all currently running jobs.

start seeing double

Lightspeed SLI supports dual graphics cards enabling you to experience vivid and realistic gaming at ultra high resolutions.

See the future of gaming. Start seeing double



Enhanced Virus Protection
Cool'n'Quiet Technology
HyperTransport Technology
64-bit Ready and 32-bit Compatible

Lightspeed SLI

Sleek package, awesome 3d graphics and feature rich, the Lightspeed is everything your dream PC should be.

AMD Athlon 64 3500+
Asus A8N-SLI Deluxe Motherboard
Corsair 1GB 3200XL DDR SDRAM
Dual 128MB GeForce 6600GT PCIE
19" Flat Black CRT Monitor
200GB 7200rpm SATA HDD NCQ
16X Dual Layer DVD+/-RW Drive
52x32x52 CDRW, 16X DVD-ROM Drive
500W ATX v2 Power Supply
GbE LAN, Firewire
7.1 Channel Audio, SP/DIF Digital Out
Microsoft Wireless Keyboard/Mouse
Windows XP Home Edition
1 Year Onsite Warranty

\$3,099 Inc GST \$36 p/week*

Vitesse FX

Packing the latest technology including PC Express and a fast response TFT monitor, this system is available for immediate delivery.

AMD Athlon 64 3000+
Asus A8V-E Deluxe Motherboard
1GB PC3200 DDR SDRAM
128MB GeForce 6600GT PCIE
17" TFT, 1280x1024, 12ms Response
120GB 7200rpm SATA HDD
16X Dual Layer DVD+/-RW Drive
350W ATX Power Supply
GbE LAN, Firewire, Wireless 802.11g
7.1 Channel Audio, SP/DIF Digital Out
Microsoft Wireless Keyboard/Mouse
Windows XP Home Edition
1 Year Onsite Warranty

\$2,099 Inc GST \$22.15 p/week*

DHS M400

Bring more digital entertainment to your lounge room with our range of DHS systems featuring Windows XP Media Center 2005 and digital TV.

AMD Athlon 64 3000+
Asus A8V-E Deluxe Motherboard
512MB PC3200 DDR SDRAM
128MB GeForce 6600GT HDTV Out
200GB 7200rpm SATA HDD
16X Dual Layer DVD+/-RW Drive
350W ATX Power Supply
GbE LAN, Firewire, Wireless 802.11g
Hauppauge Nova T Digital TV Tuner
7.1 Channel Audio SP/DIF Digital Out
Media center Remote Control
Windows XP Media Center 2005
1 Year Onsite Warranty

\$2,099 Inc GST \$22.15 p/week*

-> selected vitesse FX systems now available with same day shipping!
-> free copy of half-life 2 on selected systems* *

Find out more about our complete range
at www.emagen.com.au or call us on
1300 880 070.

emagen
make your world go faster >

All prices are inclusive of GST but do not include freight. AMD, Athlon 64 and Athlon FX are the registered trademarks of Advanced Micro Devices. Visit www.emagen.com.au for our sales terms and conditions. Microsoft and the Windows logo are trademarks of Microsoft Corporation. Prices are subject to change without notice. Errors and omissions exception. *Week payments based on a 36 month rental agreement with Flexi-rent. Subject to customer approval. Terms and conditions Apply. **Offer valid while stocks last.

ideal for travel and small spaces

eliminate messy cables

convenient portability

no need for cables
go wireless!



**LASER BLUE TOOTH
USB dongle**

Personal wireless networking device.
High speed connection.

Connect to other bluetooth enables devices
to work securely and efficiently without the
need for wires.

SRP **\$34.95**
USB-BTD



**LASER Wireless
Optical Mouse**

Sleek wireless optical mouse. Use with
your pc or on the go with your laptop.

Includes USB efficient charger cable. Smooth
optical precision sensor. Scrolling wheel
for convenience.

SRP **\$39.95**
MOUSE-4DUW



LASER Wireless PC Lock

Protect your computer from prying eyes
with this USB security lock

Simple security for your PC. Dual locking
mechanism for fail safe operation. Easy to
setup and use.

SRP **\$34.95**
AO-USBLOCK



**LASER Wireless
Keyboard & Mouse set**

High performance keyboard and mouse.
Ideal for work and play.

Wireless provides freedom for users. No
untidy cables. Optical mouse features charger
for convenience. Multimedia keyboard with
hot keys for common applications.

SRP **\$59.95**
KBMS-USBW

wireless
connection



Downtime

High-performance playtime

PC tech

Speakers corner

Dan Warne checks out some notebook speakers that aim to mix high fidelity with small form factor.

Targus Multimedia Notebook Speakers

▲Upsides: when you're camped out in a backwoods hotel, the last thing you want to watch is snowy rural TV. And when you whip out your laptop to play a DVD, you realise the salesman wasn't kidding about the built-in speakers' "treble enhancement". That's where these Targus jobs come in. They're USB-powered and stand up by themselves.

▼Downsides: they don't sound much better than ordinary notebook speakers.



Details

Online	www.targus.com/au
Price	\$79.95
Verdict	★★★★☆

Altec Lansing XT1

▲Upsides: they don't feel as cheap as the Targus equivalents (fair enough, given that they're more than twice the price), and thanks to the two cones in each speaker, the sound is Barry White-smooth. They include a nice semi-hard road case.

▼Downsides: too many cables are required. You need one to link the speakers and get stereo sound, a USB cable for power, and a headphone cable to connect the notebook. Sound lacks any real bass. Expensive compared with desktop sets.



Details

Online	www.alteclansing.com
Price	\$169.95
Verdict	★★★★☆

Microsoft Optical Desktop Elite for Bluetooth



▲Upsides: deep blue automotive-grade metallic paint and translucent blue keys — Bluetooth or not, these are good-looking input devices. Keyboard comes with a full-on tilt/scroll wheel and big, useful function buttons at the top. Unlike the previous crippled implementation of Bluetooth, the

USB adaptor with this keyboard allows you to use other Bluetooth accessories as well.

▼Downsides: "smooth" scroll wheel feels like it has a glob of putty underneath it.

Details

Online	www.microsoft.com/au
Price	\$299.95
Verdict	★★★★☆

Shop the States

Ever noticed how computer gear costs twice as much here as it does in the US, despite the strong exchange rate? Smart consumers have been ordering online from overseas for years to get around this, but until now we've been at the whim of online stores, many of whom refuse to ship to savages Down Under.

Shop the States (www.shopthestates.com) circumvents the problem, giving you a US shipping address from which they'll forward goods to your Australian address. They'll even repack boxes to keep shipping costs down.

LEGEND

Downtime ratings



Super, super cool



Super cool



Uncool, (as in newbie)

MagicStor 2.2GB+ Microdrive

▲Upsides: when did microdrives suddenly get this capacious — and cheap? Forget constantly swapping memory cards in and out of your camera, this hard drive in a Compact Flash form factor will let you shoot until your trigger finger develops RSI. Then unload the lot into your computer at high speed using the supplied USB or PCMCIA adaptor.

▼Downsides: microdrives are

more delicate than flash memory, and since this is higher capacity, you could lose an entire holiday's worth of snaps in one fell swoop.

Details

Online	www.istore.com.au
Price	\$242
Verdict	★★★★☆



Toy story

Dan Warne gets over-excited about some of the latest personal gadgets.

02 Xda II mini

▲ **Upsides:** If smartphones can be sexy, this is the Angelina Jolie of PDAs. You just want to touch it, feel its smooth curves... As such, it's the perfect accessory for a sleek aluminium Apple PowerBook, except it uses Windows Mobile so you can't sync it with a Mac. Not much bigger than a regular mobile phone, the 02 is dominated by the huge 2.8in LCD screen. The lack of a keyboard isn't really a problem thanks to its excellent built-in handwriting recognition or, optionally, an onscreen keyboard or Palm-like block writing recogniser.

▼ **Downsides:** Wi-Fi is an optional add-on — fair enough considering how small the phone is, but it would have been nice inclusion. And your facial grease inevitably transfers itself to the screen as you talk on the phone.



Details

Online www.seeo2.com.au
 Price \$1,199
 Verdict ★★★★★

Concertino tube iPod amplifier



▲ **Upsides:** It's the perfect marriage between digital and analog. That soft, loving, imperfect sound of a valve amplifier, joined to Apple's iPod music player by the now ubiquitous dock connector. And the Concertino looks tops too. Solid aluminium. Hardened glass. Mmmm.

▼ **Downsides:** It's a steal at a mere €3,200 (approx \$5,415). That's to say, stealing it would be the only option for everyone but platinum credit card holders. And that credit card debt might be around a lot longer than the life of Apple's current dock connector design.

Details

Online www.goldster-audio.com
 Price €3,200
 Verdict ★★★★★

iPorn

Certain members of the APC staff accused this writer of being a porn fiend when Downtime predicted, in a Nostradamus-like fashion, that readers should be wary of men wearing trenchcoats in bus shelters polishing their shiny new iPod photos. As it turns out, Downtime was simply ahead of its time. Playboy has taken up the challenge, announcing iBod (www.playboy.com/features/features/ibod/), a free collection of 25 iPod-sized photos to "put the sexiest girls next door in the palm of your hand". Well, you can't fault their skill at writing press releases. Sadly, we can't even look at ASCII porn on our third-gen iPod.

Truly MP301

▲ **Upsides:** excellent sound quality and packed with features, including built-in radio and the ability to show photos on the colour screen. It's half the price of the iPod photo. The colour screen compares favourably to the mono flash players of its competitors.

▼ **Downsides:** it's twice the price of Apple's iPod shuffle

music player. And while it's cheaper than the iPod photo, the user interface is confusing, the quality of the display is similar to early colour mobile phones, and the supplied software is primitive — all of which makes the photo functionality much less useful. You can only display photos at screen resolution.



Details

Online www.jepacific.com.au
 Price 256MB, \$299; 512MB, \$369
 Verdict ★★★★★

Barix Instreamer

▲ **Upsides:** audio in, Ethernet out. The Instreamer can scoot sound anywhere around your house over an existing home network, eliminating the need to run RCA cables down three flights of stairs from the server to the stereo.

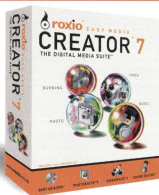
▼ **Downsides:** sure it's a good

idea, but at \$585 who's going to buy one? And if you want to decode the sound to a stereo at the other end, you need the Barix Exstreamer, which costs an additional \$438.90. Manages to make Apple's \$199 AirPort Express look like great value.



Details

Online www.auspcmarket.com.au
 Price \$585
 Verdict ★★★★★



ROXIO CREATOR 7 THE ULTIMATE DIGITAL SUITE

roxio easy media
CREATOR 7
THE DIGITAL MEDIA SUITE

Roxio's VideoWave Movie Creator on this month's cover DVD is just a sample of Roxio's many digital media applications. If you want the ultimate digital media suite, **Roxio's Creator 7** is the most comprehensive, all-in-one media

editing and CD/DVD burning solution on the market.

Finally, you can now go beyond just CD burning and organise, edit, preserve and share your digital photos, music, video and data within one integrated product. Creator 7 combines the complete versions of the latest, award-winning **Easy CD & DVD Creator**, **Sound Editor**, **PhotoSuite 7**, and **VideoWave 7** applications.

Burning a home movie to DVD for playback on your DVD player has never been easier, thanks to Roxio's seamless integration of its video editing and DVD burning products.

With Roxio's Creator 7 you can:

Copy CDs and DVDs

Disc Copier lets you make backup copies of personal discs with one click — just select the Source, Destination and click Copy.

Disc Copier's advanced mode provides you with a transparent way to make high quality copies of non-protected DVD-Video. Disc Copier clearly displays the video, audio and extra content on the DVD, so you can remove the unwanted parts and increase the resulting DVD quality.

Fix your photos

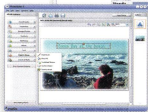
PhotoSuite lets you easily fix basic photo flaws with instant red-eye remover, crop, rotate, and straighten tools. Let advanced PhotoDoctor automatically improve exposure, sharpness and saturation. Tweak your photos to perfection with professional tools such as masking, clone, smart edge detection, and effects brushes.

Create a Project

Easy Media Creator comes with a whole CD of professionally-designed content that can be shared across many projects. Combine your own photos with hundreds of impressive templates to create custom calendars, invitations, greeting cards, collages and other one-of-a-kind projects.

Create a Slideshow

Storyboard lets you quickly produce an impressive slideshow with photos, video clips, and music. Choose from over 300 transitions, overlays and special



effects. Add your own narration or text captions. Edit an individual photo or video clip, adjust the length of a slide or decide how you want to share the slideshow, without actually launching a full editor or another application.

Capture what you want

SmartScan saves you time and hard disk space by quickly scanning the content and displaying thumbnail previews of all the scenes on your video camera, without actually copying the content on the hard disk. Just select which scenes you'd like to copy and click Capture.

Edit a movie automatically

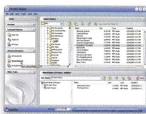
CineMagic is a fully automated editor that transforms your raw video footage and a song into a polished "music video" complete with transitions. Simply follow the steps of the Wizard to create captivating, personalised video in a few clicks.

Edit like a pro

Use **VideoWave's** professional editing tools with the new timeline feature, which supports up to 14 tracks and in-place editing. Exercise complete control over the timing of specific assets in your production, including background audio, narration, video clips, titles, and special effects, as well as the whole production.

Create compilation CDs

Creator Classic lets you easily copy music from an existing audio CD to your hard drive and save as an MP3, WAV, or WMA file. When connected to the Internet, the track, artist and album information is automatically displayed — you won't need to retype it when creating a compilation disc, printing a CD label or transferring music to your MP3 player.



Preserve your old LPs

Sound Editor lets you easily convert analog audio from LPs or cassettes into WMA or MP3 format. Connect a turntable or stereo to your computer's audio input and click Play/Record. You can even dramatically improve the sound quality by removing pops, clicks and hiss with special filters and effects.

DISCOUNT FOR APC READERS

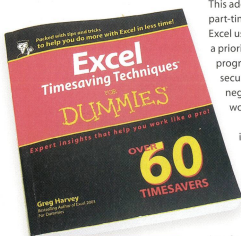
Roxio is offering a \$30 discount to APC readers who purchase Roxio's Creator 7 or VideoWave 7.

To receive the discount, go to www.roxio.co.uk/adban/apc/upgrade/VW7

The discount is only available on the download version, not the boxed retail product (it's exactly the same but without the packaging).



Excel Timesaving Techniques For Dummies



Details

Publisher	John Wiley & Sons
ISBN	0764574272
Price	\$44.95

This addition to the *For Dummies* series aims to turn part-time spreadsheet dabblers into competent Excel users. Being a spreadsheet guru isn't exactly a priority when you're trying to keep up with C# programming or understanding wireless network security, but it's surprising how many people neglect to properly learn what is one of the world's most common and useful office apps.

Excel Timesaving Techniques For Dummies is essentially a long list of step-by-step tips, from basics such as using autocorrect and smart tags through to formatting (instant range formatting, data charts), error tracing, sharing workbooks on a network, data list filtering and saving workbooks as Web pages. The Formula Timesavers will be of particular interest to many readers — how many times have you found yourself wondering what you're doing as you painstakingly copy a formula down 700 rows? This is when formula copying and arrays come in handy.

And while it's not really an expert guide, *Excel Timesaving Techniques* doesn't avoid advanced topics that might intimidate beginners. Methods detailed include auto table lookups, external database queries and an introduction to VBA programming when dealing with macros. It might even be able to surprise the pros by explaining functions some might not have realised were possible, such as the voice command option.

This book will only disappoint if you're interested in learning all the new features in Excel 2003. There's not much detail on Office 2003's drawcard feature, publishing and sharing info via XML and integrated Microsoft SharePoint Services, only four pages on importing XML data, and six pages on publishing workbooks via a SharePoint Web site.

Chances are your resident office Excel guru will look at this book and yawn. Nevertheless it'll cut down on how often people bug them, and maybe even contribute to a little office harmony.

William Maher

The Power of Many

The Power of Many claims that Internet software is changing the world and backs up this assertion with anecdotes about blogs, instant messaging and other networked systems that have begun to influence Western culture. As such it's a well researched but obviously biased look at the state of Internet technology — author Christian Crumlish is described as a "better-known blogger", and most of his interview subjects are Web veterans.

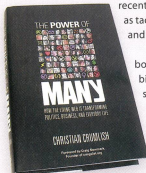
Techies who don't have time to follow the Web religiously will get the most out of this material, although anybody with a taste for buzzwords will like it too. The book itself is an attractive hardback, and the contents are current as of last year while a companion Web site tracks ongoing developments.

The Power of Many is best read with a PC close at hand, as links are referenced throughout. Crumlish does a thorough job of covering recent developments in social software, as well as tackling fun side topics like Web fan fiction and Internet dating.

One of the less appealing aspects of the book is the recurring tale of Howard Dean's bid for the US presidency. It's an interesting story, but anyone not from the US may have difficulty relating to it. That doesn't stop Crumlish pushing the significance of Web-fuelled "Deanmania" in just about every chapter. For better or worse, it's a peg that much of the book hangs on.

This title is a mid-priced tech yarn, and as long as you BYO grain of salt and follow all the links, the book and its Weblog are both worth a go.

David Emberton



Details

Publisher	Sybox
ISBN	0782143466
Price	\$55

The Cult of Mac

Some people really, really love their computers. Leander Kahney dubs them "The Cult of Mac" and his new book is all about these folk, their weird habits and the brand-conscious world they live in.

The Cult of Mac is much like a printed version of *Trekies*, the documentary about devoted *Star Trek* fans. The big difference here is that *Cult* is far more reverent, never really knocking anyone so much as admiring their commitment to the cause. A large portion is dedicated to straight Mac fandom, but the iPod and the fabled Newton get a mention too. Also covered are theories surrounding the secret of Apple's marketing success.

Presented as a series of graphic design essays, *The Cult of Mac* is a large-ish hardcover that's best suited for the coffee table. It will probably appeal to Apple fans the most, but there's definitely some gawk value for PC users as well. The pages are splashed with pictures of

Mac tattoos, bongs and hairdos, and finished off with text that's well written and funny.

Given the increasing popularity of Apple Computer, it's only natural that premium books like this will pop up to meet demand. For historical information, *The Cult of Mac* isn't much chop — for that, Apple *Confidential 2.0: The Definitive History of the World's Most Colorful Company* is a better buy — and you won't see any reprints of official ad campaigns or product photography here either. However, for coverage of the otherwise everyday people who form the Mac subculture, this is by far the best title out right now.

David Emberton



Details

Publisher	No Starch Press
ISBN	1886411832
Price	\$74.95

Caution! Wireless Networking: Preventing a Data Disaster

Wireless LANs have rapidly moved from the exotic to the everyday. People who wouldn't have dreamed of wiring up their home or office can now visit a home electronics store and buy everything they need to network a couple of computers and share a broadband connection for a few hundred dollars.

Well, not quite everything. What's missing is the knowledge needed to protect the network from unauthorised access and other threats, and that's where *Caution! Wireless Networking: Preventing a Data Disaster* comes in.

Apart from security issues such as the use of WEP and WPA, and ways of protecting yourself when

using public access points, this book also covers technical issues including interference.

Some readers might be tempted to skip the material that covers networking basics such as IP addressing, but it provides a foundation for the advice that follows. It's hard to understand why changing a router's IP address might be advisable if you don't know what an IP address is. Much of the content is also relevant to wired networks.

All told, Jack McCullough has done neophyte wireless users a favour by putting together a concise and understandable guide to this topic.

Stephen Withers



Details

Publisher	Wiley
ISBN	076457123
Price	\$41.95

C All-In-One Desk Reference For Dummies

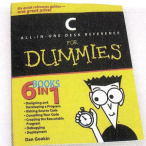
There are two basic approaches to teaching programming. One concentrates on the structures and techniques of turning an idea into code and using basic input/output operations. The other is specific to a particular OS or environment and involves stringing together system calls with just enough code to achieve a particular end.

The former is probably the best long-term bet, and that's the approach taken by *C All-In-One Desk Reference For Dummies* author Dan Gookin. He uses a series of examples (a few run to three or four pages, but that's still short as programs go) to thoroughly

explain various aspects of the language, allowing the amateur C programmer to grasp each before proceeding. By the end of the book they'll be ready to move on to OS-specific issues. Also included are pointers to Web sites where C compilers, tools and sample code can be downloaded.

Overall, this is an excellent title with a broad range of topics and an accessible and entertaining style. As the title implies, it can even serve as a reference book after you've worked through the chapters, thanks to its extensive index.

Stephen Withers



Details

Publisher	Wiley
ISBN	0764570692
Price	\$57.95



THE BEST DIGITAL TV TOTAL SOLUTION PROVIDER

Have You Ever Watch HDTV on Your PC?

Try TwinHan!



MagicBox
USB2.0
HDTV



TwinhanDTV
Sat



TwinhanDTV
Mini-Ter



TwinhanDTV
D+A PCI



Twinhan TV-Plus

- Easy Installation
- Personal Schedule Video Recording (PVR)
- Time-Shifting + Capture
- EPG + Teletext
- ★ Free CyberLink Power DVD

CeBIT

Booth Number Hall 23
A32/1

AVAILABLE FROM THE FOLLOWING RESELLERS • Live Demo Sites

NSW • BIGEN Computers 02-94428698
BBC Technology 02-98047777
• J & W Computers 02-97262818
• ECOM Computers 1300269838
EVO Technology 02-97915586
• Excel Computers 02-94496688
AusPC Market 02-97469000

Smart Digital Star
Digital Australia
• ART EVO
• BECom
• FUDACHI
• TEXEN

02-97480877
02-97486888
02-92116662
02-97474709
02-97480488
02-92803649
02-98097668

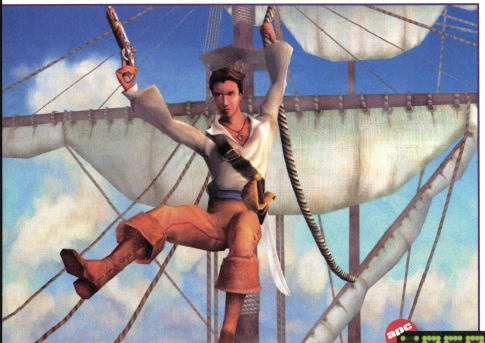
VIC • MSY
• Computers & Parts
• CW Supplies
• Infinity Computer
• IDS International
Game Dude
Universal
WA
• Navada

03 95724411/5186
03 85426888
03-59452000
03-53329228
03-94843977
07-33871500
07-33978266
0892427288
08-94464099

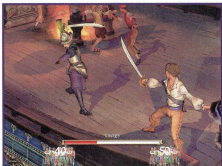
SYNNEX
Synnex Australia Pty Ltd
Phone: 1 300 840 038
www.synnex.com.au



TWINHAN Technology Co., Ltd
13F-6, No. 79, Section 1, Hsin Tai Wu Road,
Hsin-Chih 221, Taipei Hsien, Taiwan
TEL: +886-2-2696-9545 FAX: +886-2-2696-9560



Pretty noose: the star of the show busts out his Jesus Christ pose.



Captain Hook: "Trust me... keep a straight left arm and you'll be driving like Tiger Woods."



Caught in the crossfire: Paddy's career as a naval warfare umpire comes to an abrupt halt.

Sid Meier's Pirates

How do you take a Commodore 64 game and make it relevant? Get Atari on the case. *Justin Kranz* discovers *Pirates* is one prime piece of booty.

Way before Johnny Depp ripped off Keith Richards' schtick in *Pirates of the Caribbean: The Curse of the Black Pearl*, buccaneers have met with favour in the eyes of gamers. After all, if your day job is Q&A for a software firm, sailing the high seas and flogging boats for a living seems quite enticing.

Sid Meier's *Pirates* is a remake of the classic older title. Unlike many "retro classics" which were, quite frankly, crap, the C64 *Pirates* had style and verve, and took itself seriously.

Why is a pirate's life for you? A decade ago, the evil Marquis de la Montalban kidnapped your family. Now you're grown up and ready for revenge. If that entails becoming the kind of filthy rogue whose depredations can fund a lifestyle normally only available to ex-government ministers and spoilt pro sportsmen, then so be it.

Sail your boat, attack other ships, rip off their loot, then garner praise from Spanish, Dutch, English or French towns for furthering their strategic interests in the Caribbean. Playing countries off against each other becomes second nature, as does strategic backstabbing. Quite often it's more beneficial to, say, accept an escort task from one side, get out on the high seas, smash your charge into little pieces, then go to a new port and claim the kudos. It's that type of game.

While there's a very piddly town attack mode, akin to a weak strategy mini-game, the other forms of combat are easy to understand and control. No joystick support means you're lumped with using the keypad to control everything, which can be a bore, but at least it isn't overly complex. Ship-to-ship combat is the pick—you and the opposing vessel face off, then try to out-maneuvre and put a hurting on each other.

A variety of weapon and ship upgrades can be bought at different ports to improve performance, and ultimately combat ends either in defeat for you, surrender by the enemy ship, or boarding—initiated by collision. You then have to defeat the enemy's captain in a cutlass duel. It's very cinematic and easy to pick up.

As you'd expect, the graphics are worlds away from the sprite-driven efforts of 15 years ago. Everything is in sexy 3D-O-Vision, and there's more detail devoted to the ocean's ripple animations than you would have found in the entire original.

Perhaps the main criticism of the game is that the action sequences—barring the ship combat—can become a little repetitive. Thankfully there's simply so much to do (trading, diplomacy, special quests) that this is no more than a trifling issue. Multiplayer would have been fantastic as well.

With the Caribbean as your playground and nine famous pirates to take down as well as chasing the Marquis, this is a fantastic update of the original. Recommended for anyone with a pulse.

The lowdown

▲ **Upsides:** deep enough to be addictive for ages, simple enough that anyone can play.
▼ **Downsides:** certain sub-games pall with time.

Details

Contact	Atari
Online	www.atari.com.au
Price	\$89.95
Verdict	★★★★★

Armies of Exigo

And now for something completely different
(to anything you'd be willing to pay for).

Okay, so there's these Electronic Arts geezers. World's biggest games company and all that. They seem to have a bit of a deficiency in the "conflict of interest" spot on their starting eleven, from the look of things.

On the one hand, you've got *The Lord of the Rings: The Battle for Middle-earth* (APC March, page 127), a great strategy game. On the other, just a few months later, you've got *Armies of Exigo*, which looks like it's going after much the same audience.

The big difference is that while *The Battle for Middle-earth* has really opened new vistas of lush gaming goodness for RTS players new and old, *Armies of Exigo* is a throwback to the days when RTS players seemed a breed apart. That's right — stripped of its magic and medieval theme, not to mention decent visuals, this is old school fodder.

Exigo features three sides for you to head into battle with: The Empire (swords, spells and elves), the Fallen (bad guy variants of the Empire), and the Beasts (trolls, lizard men and ogres) are your choices. And the way the races play out is very reminiscent of another great RTS, *StarCraft*.



Fantastic battles: Santa's little helpers launch a bloody surprise assault on the Smurfs.



Who dropped one? Nobody was able to clear a room faster than Ronald when he hit the chilli.

About the only new thing that *Exigo* brings to the table is its interesting dual map idea — you can dig through caverns and then burrow up to unleash death from, er, below. This feature's not as well explored, or exploited, as it could have been, but along with the admittedly sexy visuals it's the just about the only advantage *Exigo* has over some of its ageing RTS rivals.

While it's not unusual for a game to be released, then almost instantly rendered irrelevant by the competition, it's unusual for such a game to be trumped by a rival from the same publisher. But there's no denying that *The Battle for Middle-earth* has it all over *Armies of Exigo*. Only hardcore players longing for a return to the salad days of *StarCraft* will find solace here; the rest of the world has moved on.

The lowdown

▲ **Upsides:** dual-layered map system shows promise; difficult enough even for the most hardened RTS player.

▼ **Downsides:** the way the game plays would have been great two years ago; now it comes across as dated.

Details

Contact	Electronic Arts
Online	www.electronic-arts.com.au
Price	\$89.95
Verdict	★★★★☆

CSI: Miami

The game version of *CSI: Miami* features David Caruso. Despite this, it's still worth buying.

Think you have a tough job? Imagine being an actor who plays one of the many corpses in the *CSI* series. It's pretty hard to press your claims as lead material in the latest Bruckheimer sludginess when IMDB lists your career as "Eviscerated victim". Likewise, the style employed by the *CSI* video games (3D exploration and puzzles) isn't going to win critical acclaim.

CSI: Miami offers five forensic investigations. While you may not be able to grimace and act the smug, supercilious know-it-all like David Caruso's forensic honcho Horatio Caine, you do feel like you're "in the show". Series writer Max Alan Collins penned the storylines, so there is a level of continuity and familiarity here. The adult themes will also resonate. Along with the gore (which has raised a few eyebrows in the past), the subject matter doesn't pull back from the TV counterpart.

Playing is simple. You have a number of standard locations where specific functions are performed — autopsies, interrogations, lab work and detective casework. Combined with the crime scene, you collate evidence, narrow down suspect lists and try



Benchmark: APC Labs prepares for the autopsy tool megatest.



Hi, I'm David: you might remember me from such hits as *Jade* and *Kiss of Death*.

to avoid the red herrings. It's as much about process work as anything else, but so it is in real life, too.

This isn't rocket science. If you simply want to scroll the pointer all over the screen and exhaust all possibilities, you can finish each case quite rapidly. Casual players will tend to gain more from the game, mainly because their intent will be to methodically "solve" the crime, rather than shortcut it.

CSI: Miami doesn't qualify as a great feat of software engineering by any means, but it's surprisingly enjoyable to play if you're able to take it at face value. And fans of the series and/or tech will appreciate some of the high-end tools used to help solve the crimes, as well as the dispassionate, professional tone. Surprisingly satisfying.

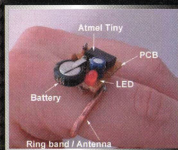
The lowdown

▲ **Upsides:** likenesses and voice acting from the stars of the television show add to the feeling of authenticity.

▼ **Downsides:** if you get stuck, it's too easy to try all available options to proceed.

Details

Contact	Ubisoft
Online	www.ubisoft.com
Price	\$49.95
Verdict	★★★★☆



GEEK BLING

Clearly, there's not enough work being done to integrate PC technology into everyday fashion, which is why we commend the inventor of the Wi-Fi Detector Ring (<http://neil.moon-beam.com/users/kris/index.htm>). This combination of a copper band which doubles as an antenna with a battery/LED/circuit combo lights up whenever it detects a 2.4GHz signal... or leakage from microwave ovens and cordless phones. One thing the "fashionable" ring doesn't pick up is members of the opposite sex, possibly due to design flaws in the antenna and the lack of a sensitive tunnel diode. Back to the drawing board.



PRISON GATES

When we first saw these mug shots of a young Bill Gates, we were certain it was a Photoshop job. But research shows that Gates was once arrested. The Albuquerque Police department charged him for speeding and driving without a licence on 29 April 1977. Back in those days, 22-year-old Gates used to tear down the desert highways around Albuquerque, New Mexico, in his Porsche. But from the look of Gates in the mug shots, he doesn't seem concerned. It's probably because he knows he's about to sign a contract with IBM that will distribute DOS on all IBM PCs.

TOP 5 CONFUSING SOFTWARE TITLES

They sound fascinating, but the names of these applications give absolutely no clue as to their purpose:

Software	Could be	Is actually
Rosegarden www.rosegardenmusic.com	DIV house and garden planner	Professional audio and midi music sequencer for Linux
Krokodile www.kde.org/announcements/announce-3.4beta1.php	Kids animal game	Beta version of latest KDE desktop environment for Linux
Bluefish http://bluefish.openoffice.nl	Depth-sounding software for runabouts	Design editor for interactive Web sites
PHAWN "Program Without An Interesting Name" www.rightclick.com.au	Voice recognition software for Australian accents	Online blogging software
Mercora www.mercora.com	We've no idea	Peer-to-peer streaming Internet radio

Dude looks like a lady!

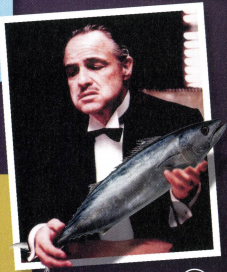
DIGITAL MUSIC'S CRED ON THE ROCKS

- The Severed Heads releases its entire catalogue as MP3.
- Metallica gets shirty at online music piracy.
- Bands like the String Cheese Incident regularly post live recordings on their sites.
- Apple signs U2 to push a special iPod.
- Ministry of Sound releases an MP3 player loaded with its most recent album.

With digital entertainment now becoming big business, guess who Intel has chosen to help talk up a digital music mixing software application? Steve Tyler!

Obviously the company thinks it'll be selling the software to people who spent their formative years in flares listening to Aerosmith. At least some of us who were born a few years later can use the software to strip out the singer's vocals.

Intel CEO Craig Barrett sings with musician Steven Tyler of Aerosmith as he delivers a keynote address at the 2005 Consumer Electronics Show Las Vegas, Nevada.



EA SLEEPS WITH THE FISHES

EA Games will release its own version of *The Godfather* later this year, featuring the voice of the late Marlon Brando as Don Vito Corleone. Method-acting Marlon took part in a voiceover session with the game developer before he passed away last year. Brando was famous for spitting it if he thought something was horrible, so for EA's sake, we hope it gets it right.

The fastest way to bring things to life



CMV CT - 720D

\$549.00
RRP

The 17" Monitor Boasting **8ms Response Time**

- Cool white with silver bevel
- 30 Day Money Back Performance Guarantee
- 3 Years Onsite warranty
- Dual Interface for Digital & Analogue Connectivity
- Super High Brightness of 450cdm/2
- Extreme Contrast Ratio of 500:1
- True Linear Viewing Angles
- Out of Sight Response Time of 8ms
- Multimedia Stereo Speakers
- Wall Mountable



All prices are quoted RRP, include GST and are subject to change without notification

Contact Impact Systems for
your nearest CMV stockist

impact
Systems Technology Pty Ltd

Phone (02) 9621 2999

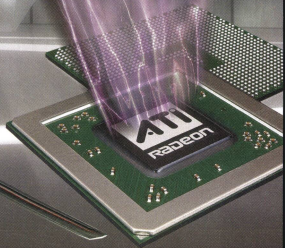
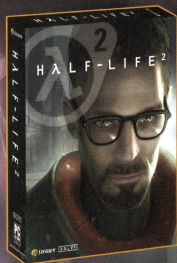
Fax (02) 9621 6966

Email sales@impactsystems.com.au

www.impactsystems.com.au



DESIGNED ON RADEON
BEST ON RADEON



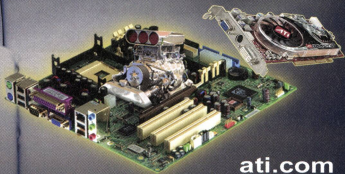


RADEON™ IGP

SUPERCHARGED GRAPHICS
RIGHT ON YOUR MOTHERBOARD



SURROUNDVIEW



ati.com

Introducing Tonny's new & revolutionary water resistant photo paper

Buy any 5 Tonny compatible cartridges & receive 1 pack of TONNY Premium Glossy Paper FREE! (TPP1846)

Create superior photo prints with your inkjet printer

- Glossy finish for true photo quality
 - Compatible with all inkjet printers
 - Bright white for high colour saturation
 - Smudge tested under water for 36 hours
 - One sided
 - 20 Sheets
- TPP1846
A4 (210 x 297mm)
256gsm ... **\$16.90**
- TPP1811
A4 (210 x 297mm)
187gsm ... **\$12.90**



NEW

Epson Ink Cartridges



Model	Compatible	Model	Compatible	Model	Compatible	Model	Compatible	Model	Compatible
T001	\$18.90	T017	\$10.80	T038	\$11.00	T0472/3/4	\$ 8.90	S020110	\$11.50
T003	\$ 9.90	T018	\$13.20	T039	\$13.70	T0491/2/3	\$ 8.90	S020187	\$ 5.60
T005	\$18.00	T019	\$ 7.70	T0321	\$15.10	T0494/5/6	\$ 8.90	S020189	\$ 6.50
T007	\$10.80	T020	\$11.20	T0322/3/4	\$13.50	S020025	\$11.20	S020191	\$ 9.90
T008	\$16.50	T026	\$11.20	T0422C	\$13.50	S020089	\$ 9.90	S020193	\$11.50
T009	\$16.90	T027	\$16.50	T0423M	\$13.50	S020093	\$ 5.60		
T013	\$ 5.60	T028	\$11.20	T0424Y	\$13.50	S020097	\$12.90		
T014	\$ 9.90	T029	\$13.75	T0461	\$ 8.90	S020108	\$ 6.50		

Ink refill kits for Canon, HP, Lexmark & Epson

from \$700

Canon Ink Cartridges



Model	Genuine	Compatible	Model	Genuine	Compatible
BC-01	\$49.00	\$28.00	BCI-3PC/3PM	\$19.00	\$6.40
BC-02	\$39.00	\$28.00	BCI-6BK	\$24.00	\$6.40
BC-03	\$38.00	\$28.00	BCI-6C/M/Y	\$24.00	\$6.40
BC-05	\$50.00	\$35.00	BCI-6PC/6PM	\$24.00	\$6.40
BC-20	\$49.00	\$28.00	BCI-21BK	\$13.00	\$4.90
BCI-3eBK	\$25.00	\$ 8.80	BCI-21C	\$28.00	\$6.40
BCI-3eC/M/Y	\$19.00	\$ 6.40	BCI-24BK	\$14.00	\$5.60
			BCI-24C	\$33.00	\$7.20



HP Ink Cartridges

Model	Genuine	Compatible	Model	Genuine	Compatible
51625A (#25)	\$46.00	\$30.00	C6656AA (#56)	\$32.00	\$24.00
51626A (#26)	\$46.00	\$30.00	C6657AA (#57)	\$51.00	\$32.00
51629A (#29)	\$46.00	\$30.00	C6658AA (#58)	\$37.00	---
51645A (#45)	\$46.00	\$30.00	C8727A (#27)	\$31.00	---
51649A (#49)	\$48.00	\$30.00	C8728AA (#28)	\$35.00	---
C1816A (#16)	\$63.00	---			
C1823D (#23)	\$51.00	\$32.00			
C6578D (#78)	\$51.00	\$32.00			
C6614A (#20)	\$44.00	\$28.00			
C6615DA (#15)	\$44.00	\$28.00			
C6625A (#17)	\$48.00	\$30.00			



Lexmark Ink Cartridges

Model	Genuine	Compatible	Model	Genuine
12A1970	\$48.00	\$32.00	18L0032 (#B2)	\$47.00
12A1980	\$56.00	\$35.00	18L0042 (#B3)	\$53.00
17G0050	\$46.00	\$32.00		
17G0060	\$53.00	\$35.00		
13400HC	\$53.00	---		
13619HC	\$52.00	---		
10N0217	\$33.00	---		
10N0227	\$35.00	---		
10N0016	\$46.00	---		
10N0026	\$49.00	---		



Toner Cartridges

Model	Genuine	Compatible	Model	Genuine	Compatible	Model	Genuine	Refill
HP 92274A	\$145.00	\$ 59.00	HP C4127X	\$195.00	\$ 80.00	Samsung ML-1210D3	\$ 94.00	\$49.00
HP 92298A	\$149.00	\$ 65.00	HP C4128X	\$249.00	\$115.00	Samsung ML-1710D3	\$ 98.00	\$49.00
HP C3906A	\$105.00	\$ 59.00	HP C4182X	\$285.00	\$165.00	Samsung ML-4500D3	\$ 97.00	\$49.00
HP C3903A	\$130.00	\$ 75.00	HP C7115A	\$ 99.00	\$ 59.00	Samsung ML-5200D6	\$163.00	\$65.00
HP C3909A	\$249.00	\$115.00	HP C8061X	\$195.00	\$ 85.00	Samsung ML-6600D6	\$155.00	\$65.00
HP C4092A	\$ 99.00	\$ 59.00	HP Q1338A	\$219.00	\$ 85.00	Samsung SCX-4216D3	\$ 99.00	---
HP C4096A	\$155.00	\$ 65.00	HP Q2612A	\$ 99.00	\$ 65.00	Samsung SF-5100D3	\$ 95.00	---
HP C4127A	\$155.00	\$ 65.00	HP Q2613A	\$ 99.00	\$ 65.00			

Toner powder also available for HP & Samsung

from \$1495

FOR A COMPLETE WHOLESALE PRICE LIST CONTACT ADSCROLL AUSTRALIA ON 02 9966 8688

Adscroll Australia
Suite 103, 52 Alchison Street
St Leonards NSW 2055
Tel: 02 9966 8688
Fax: 02 9966 3808
Email: sales@adscroll.com.au

TEG Computers
Shop 502, Level 5, 33 Bligh St
Sydney NSW 2000
Tel: 02 9223 2360
Fax: 02 9223 5775
Email: sales@tegcom.com.au

For a full product range visit our website at
www.tegcom.com.au

TEG computers

Spend \$100 or more with TEG, and we'll deliver FREE! For purchases under \$100 a standard freight charge of \$6.50 applies for all areas within Australia.

Soprano

VB1000 Series



RRP \$209 with 400W power supply
Available at Harvey Norman and most
independent computer stores

The essence of style

Soprano

Tt Thermaltake
COOLER YOUR LIFE

THERMALTAKE AUSTRALIA & NEW ZEALAND

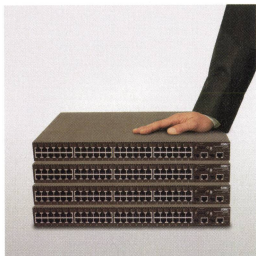
UNIT 1 / 49 HENDERSON ROAD, ROWVILLE VIC 3178

PH: 03 9763 1622 FAX: 03 9763 1677

EMAIL: sales@thermaltake.com.au

Web: www.thermaltake.com.au

SWITCH SOLUTIONS



BE SMART! Switch to SMC Networks

SMALL in Price, BIG in Features

Get **2 FREE**
SMC9452TX
with purchase of
SMC-EZ1026GT at
only **\$349!**

(Inc GST)



SMC-EZ1026GT
EZSwitch™ Standalone
24-port 10/100Mbps Layer 2
Smart Switch with 2 Built-in
Gigabit Copper Uplink



SMC9452TX
TigerCard™
10/100/1000BaseTX
32-bit Desktop Gigabit
Ethernet Adapter

SMART Features for SMC-EZ1026GT

- High port density with 2 gigabit copper uplinks
- 255 VLANs that provides maximum security and bandwidth efficiency
- Port Trunking & Rate Limiting for network bandwidth control
- QoS Policy to maximise network bandwidth utilisation
- Port Mirroring for monitoring traffic in a network

MORE AFFORDABLE MANAGED SWITCHES

SMC's line of full-function solutions provides the performance required while simultaneously delivering the control necessary to turn networks into business tools.



SMC6724AL2
TigerSwitch™ Standalone
24-port 10/100Mbps Layer 2
Managed Switch with 2 slots for
Gigabit or 100FX uplinks



SMC8624T
TigerSwitch™ Standalone 24-port
10/100/1000Mbps Layer 2
Managed Switch with 4 associated
mini-GBIC ports for uplinks



SMC6750L2
TigerSwitch™ Standalone
48-port 10/100Mbps Layer 2
Managed Switch with 2 associated
mini-GBIC ports for uplinks



SMC8612XL3
TigerSwitch™ Standalone 12-port
10/1000/1000Mbps Layer 3 Managed
Switch with 2 slots for Gigabit
or 100FX uplinks

Call us now
& check
it out!

**30 Days
MONEY BACK
GUARANTEE**

*Terms and conditions apply.

Authorised Distributors

Unistar Enterprises Pty Ltd • Unit 10U/175 Gibbes Street Chatswood NSW 2067 Tel: 02 9882 0011 Email: sales@uni-star.com.au
Westan Australia Pty Ltd • Unit 1/21 Lionel Road Mount Waverley Victoria 3149 Tel: 1300 780 303 Email: sales@westan.com.au

Simply Better Connections

ATEN International has long been recognised as a leading provider of KVM and USB solutions to thousands of businesses worldwide; businesses which have relied on the dependability of ATEN products to manage their system critical operations and data.

www.aten.com

KVM Switches SOHO KVM SOLUTION



CS-62
2 Port PS/2 Petite KVM Switch

CS-62A
2 Port PS/2 Petite KVM Switch with Audio



CS-64
4 Port PS/2 Petite KVM Switch

CS-64A
4 Port PS/2 Petite KVM Switch with Audio



CS-62U
2 Port USB Petite KVM Switch with Audio



CS-1732A/1734A
2/4 Port USB Masterview KVM Switch



CS-82A/84A
2/4 Port PS/2 Masterview KVM Switch



ACS-1602
2 Port ADC Mac KVM Switch

KVM Switches Enterprise KVM SOLUTION



CS-9138
8 Port PS/2 KVM Switch



ACS-1216A
16 Port PS/2 KVM Switch



ACS-1216AL
16 Port PS/2 Slideaway LCD KVM Switch



CV-130
Sun to PC Console Converter



CV-160
Mac to PC Console Converter

USB & FireWire



UN-201
USB 2.0 Data-link



UE-250
USB Extender Cable



US-401
4 Port USB Peripheral Switch



PC-220
USB2.0 & Firewire Card Bus



UC-210T
USB2.0 to Ethernet (10/100) Converter



UC-232A
USB to RS-232A Adapter



UC-1284
USB to IEEE-1284 Parallel Interface

Data Communication



AF-142 AF-241
Parahub Auto Switch



SXP-320
Serial to Parallel Converter



CE-700
USB KVM Extender



SXP-500
Serial/Parallel Converter



IC-485S/IC-485SN
RS232 to RS-485/RS-422 Bi-directional Converter



CE-220
PS/2 KVM Extender



Video Products



VS-881
8 Port Video Switch. Displays video output of 8 separate PCs on 1 monitor or projector



VS-92A/VS-94A/VS-98A
2/4/8 Port Video Splitter (up to 250MHz)



VE-120
Video Extender

Anyware™ COMPUTER ACCESSORIES

www.anyware.com.au
www.anywarenz.co.nz

SYDNEY
TEL: 02-9879 5788
FAX: 02-9879 5388

MELBOURNE
TEL: 03-9763 8200
FAX: 03-9763 8400

PERTH
TEL: 08-9242 8588
FAX: 08-9242 8688

ADELAIDE
TEL: 08-8347 0488
FAX: 08-8347 0466

BRISBANE
TEL: 07-3856 3999
FAX: 07-3856 1777

AUCKLAND
TEL: 64-9-634 8088
FAX: 64-9-634 8078

MITTONI

High Performance Technology Distribution

Telephone (03) 9562 9292



Thermaltake
COOL *all* YOUR LIFE

www.mittoni.com.au



\$52

**CL-P0025
Silent Tower**

Suits all CPU's
with motherboard
mounting holes



\$55

**CL-P0092
Silent 775
CPU Cooler**



\$58

**CL-P0066
Pipe 101
Heatsink**



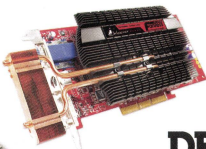
\$75

**CL-P0019
Fanless 103**



\$269

**W0029
Fanless PSU**



**CL-G0009
Heatpipe Cooling
Technology**

USB 2.0 Flash Pen Drive

Transfer data in your pocket or your keychain!

MITTONI USB 2.0 Flash Drives
include our factory backed
lifetime warranty



USB 2.0 Mobile Drive

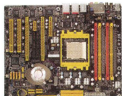
The Perfect Mobile Transfer and Backup Solution

Enclosure	\$42
40GB	\$197
60GB	\$257
80GB	\$307

Backward Compatible
The Mobile Drive will
function on any USB
or USB 1.1 connection

DFI® **LAN PARTY**

Full range of
UV Reactive
Motherboards
nF3 250G
nF4 SLI-DR



PUMP UP THE POWER OF YOUR DIGITAL CAMERA WITH UltraSpeed and ExtremeSpeed Cards



Secure Digital

128MB PQI	\$39
256MB PQI	\$59
512MB PQI	\$85
1GB SanDisk	\$145
1GB SanDisk Ultra II	\$175
2GB SanDisk Ultra II	\$300



CompactFlash

256MB	\$55
512MB	\$85
1GB	\$145
1GB Ultra II	\$169
1GB Extreme	\$300

Refund or exchange offered whatever your brand
of camera or digital device for maximum piece of
mind with your purchase compatibility

**Unit 10, 45 Normanby Road
Normanby Business Park
Notting Hill, Vic 3168**

Telephone (03) 9562 9292

www.mittoni.com.au

Need something more reliable?



HighPoint RocketRAID 1820A 8 Channel PCI-X Serial ATA RAID card

8 SATA channels, RAID 0, 1, 5, 10 and JBOD
Optimized XOR technique, Advanced Intelligent Cache Algorithm,
Significant performance enhancement for RAID implementations.
Aimed at enterprise storage, NAS storage, web servers,
video streaming, back up and security systems.

RRP \$385

For more information go to www.Highpoint-tech.com



4th fastest
growing
company
in Australia in 2004

Australia / NZ Exclusive Distributor:

Sydney
Unit 37, Slough Business Park,
Harker Street
Skegness NSW 2128
Tel 02 9735 5655
Fax 02 9735 5656
sales-ey@altech.com.au

Melbourne
Building 3, 13-15 through St
Springvale VIC 3171
Ph 03 9558 5090
Fax 03 9558 5091
sales-mel@altech.com.au

Brisbane
64 Hope St
South Brisbane, QLD 4101
Ph 07 3017 2000
Fax 07 3017 2020
sales-bne@altech.com.au

Premium Resellers:

NSW TechBoy
NSW Tech
VIC Gorgon Technology
QLD CTS Technology
QLD Smart
ACT Computer World
TAS Tasmanian Precious Comp.

(02) 9546 1810
(02) 9511 8860
(02) 9511 8866
(02) 9542 0585
(02) 9517 3411
(07) 3369 3028
(07) 3512 2905
(03) 4234 5077

www.techboy.com.au
www.tech.com.au
www.gorgon.com.au
www.cts.net.au
www.smart.com.au
www.computerworld.com.au
www.tasmanianprecious.com.au

►► 14CM POWER



(500W) RRP \$169

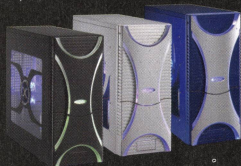


EPS12V

*Remain running fan after turning off 5 mins
ISO7779 dBA Testing
Top silence PC power supply (<21dBA)

►► XION SF-465

RRP \$179



- Airflow hole around the entire case for the best heat dissipation.
- Front access USB2.0 / Audio / IEEE1394(option)
- Build-in removable air filter in the front and sliding drive rail assembly.

►► FAN MASTER

RRP \$69



SF-609

- Fashion looking with outstanding quality.
SUPER FLOWER be sured customer having of gamer's dreaming fan controller with high performance.

►► X-MASK SF-462

RRP \$169



- Various cooling fan supports in front, rear and side of chassis for highly efficient ventilation.
- Front access USB2.0 / Audio / IEEE1394
- Acrylic side window&colorful light LED Fan.

Resales

NSW:

Marvel Computers Pty Ltd - Castle Hill
www.marvelcomputers.com.au
Eyo Technologies Pty Ltd - Padstow
www.eyo.com.au

Arc Computer - 5 locations
Chatswood, Liverpool, Parramatta
Penrith, Silverwater
www.arc.com.au

Thx Computer Systems-Sydney
www.thx.com.au

Winner It-Newcastle
www.winnercomputers.com.au

QLD:

The Disc Shop- 9 locations
Cairns, Maroochydore, Rockhampton
Toowoomba, Coopers Plains, Mansfield,
Nerang, Springwood, Townsville
www.thediscshop.com.au
Game Dude-Springwood
www.gamedude.com.au
Umart Online-Milton
www.umart.com.au
Queensland Computer
Group-Woolloongabba
www.umart.com.au
Axiom Computers-Maryborough
(07) 4123 6311

VIC:

It Warehouse - 6 locations
www.itwarehouse.com.au
Infinity Computer Group - 8 locations
www.infinitycomputer.com.au
Newcomputer.com.au-Oakleigh
www.newcomputer.com.au
Computers & Parts Land - 2 location
West Melbourne and Notting Hill
www.cpl.net.au
CentreCom - 5 locations
www.centrecom.com.au
Scorpion Technology
www.scorpntec.com.au

SA:

It Warehouse - 8 locations
Adelaide, Blair Athol,
Clovelly Park, Elizabeth, Modbury,
Noarlunga Port Adelaide, Whyalla
www.itwarehouse.com.au
WA:
Ple Computer - Wangara
www.ple.com.au
New Zealand: (Agent)
Times Technology
Auckland 09-6201 0000
TAIWAN: (Manufacturer)
E-mail: www@super-flower.com.tw

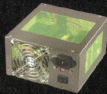
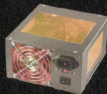
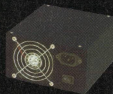
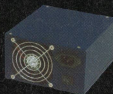


SINCE 1986
www.topower.com.tw



Silent Engine

- ATX12V / EPS12V 350W-600W
- Fanless Extended 1.3 Version 420W-500W
- SFX12V / TFX12V 250W-350W
- Innovatory 6 Independent Circuitry Design
- Silent Engine / ECASO Technology
- REMI Technology / VGA 6pins for PCI EXPRESS
- Green AC Power Control
- 20-pin for ATX12V, 24-pin for BTX/EPS12V/ATX V2.2



450W RRP \$169 550W RRP \$199

Available 450W-550W

400W RRP \$129

Available 400W-600W

Fanless 420W RRP \$199

Available from Resellers:

•NSW

MARVEL COMPUTERS PTY LTD - Castle Hill
www.marvelcomputers.com.au
EYO TECHNOLOGIES PTY LTD - PADSTOW
www.eyo.com.au

ARC COMPUTER - 5 locations
Chatswood, Liverpool, Parramatta
Penrith, Silverwater
www.arc.com.au

THX COMPUTER SYSTEMS - CBD
www.thx.com.au

WINNER IT - Newcastle
www.winnercomputers.com.au

•QLD

The Disc Shop - 9 locations
Cairns, Maroochydore, Rockhampton,
Toowoomba, Coopers Plains, Mansfield,
Nerang, Springwood, Townsville
www.thediscshop.com.au

Game Dude - Springwood
www.gamedude.com.au
Umart Online - Milton
www.umart.com.au

Queensland Computer Group - Woolloongabba
(07) 3846 0888

Axiom Computers - Maryborough
(07) 4123 6311

•VIC

Infinity Computer Group - 8 locations
Ballarat, Brunswick, Burwood, Dandenong,
Geelong, Frankston, St Albans, Sunshine
www.infinitycomputer.com.au

IT Warehouse - 6 locations
Bendigo, Box Hill, Clayton,
Dandenong, Maidstone, Preston,
www.itwarehouse.com.au

Computers & Parts Land - 2 location
West Melbourne and Notting Hill
www.cpl.net.au

Newcomputer.com.au - Oakleigh
www.newcomputer.com.au
Scorpion Technology
www.scorpiontec.com.au

•SA & WA

IT Warehouse - 8 locations
Adelaide, Blair Athol, Clovelly Park, Elizabeth,
Modbury, Noarlunga, Port Adelaide, Whyalla
www.itwarehouse.com.au

UNV Distribution Pty Ltd
www.unv.com.au
Phone: 08 9302 6443
www.unv.com.au

New Zealand (Agent)
Times Technology
Auckland 09-6201 0000

D-LINK WIRELESS NETWORKING

WIRELESS MEDIA PLAYER - Stream audio, photos & video to your TV!!



FILTERS

DSL-10MF \$18
DSL-10CF \$22
DSL-10SP \$32



DWL-G120 \$117



DWL-G122 \$80



DWL-G520+ \$65



DWL-G650+ \$65

54MB			108MB		
DWL-G650+ (PCMCIA)	\$60	DI-724P+ (router wireless)	\$173	DWL-G650	\$75
DWL-G520+ (PCI)	\$70	DI-824+	\$245	DWL-G520	\$80
DWL-2000AP+ (access point)	\$116	(VPN, router USB, printer server)		DWL-2100AP	\$185
DI-624+ (router wireless)	\$112	DI-824VUP+		DI-624	\$140



ROUTER / DSL

DI-704P (4port, parallel) \$83
DI-704UP (4port, USB) \$92
DI-707P (7port, parallel) \$145
DI-804HV (VPN, 4port) \$175
DI-808HV \$189



ADSL

DSL-504G \$105
DSL-300G \$78
DSL-302G \$95
DSL-200G \$70



SWITCHES

DI-714P+ \$170
DI-724P+ \$173
DI-784 \$325
DES-1016R+ \$198
DES-1024R+ \$253
DES-1026G \$330
DES-1008D \$60



DSM-320
2.4GHz 11g
\$330



GIGABYTE

MOTHERBOARD & MEMORY

GA-8S61FXM 4in1 \$100
GA-8S648FXL \$85
GA-8I848P-G \$110
GA-8IPE1000-G \$125
GA-7VM400M 4in1 \$80
GA-7H400L \$105
GA-7H400 Pro2 \$155
GA-K8VNX \$187
GA-K8VT800 \$139
GA-K8VM800M \$135
GA-K8NS \$137
GA-K8NS Pro \$163
GA-K8NSNX \$240
GA-8IPE 775G \$154
GA-8IPE 775 Pro \$172
GA-8I915 Pro \$188
GA-8I865GM-775 \$150
GA-8I915P Duo \$195



GRAPHIC CARD

64Mb ATI Radeon 9200SE \$65
128Mb ATI Radeon 9200SE \$75
128Mb PCX5900 \$380
128Mb PCX5300 \$145
128Mb FX5900XT \$340
256Mb ATI Radeon 9600XT \$250
128Mb ATI Radeon X600XT \$335
256Mb ATI Radeon X800XT \$940
128Mb Geforce4 FX5200 \$95
256Mb nVidia FX5700 VIVO \$250

WIRELESS NETWORKING

GN-WPKG PCI Wireless 54Mb \$45
USB Wireless & 128Mb Flash \$90
GN-WPEAG PCI Wireless 108Mb \$80
GN-WMAG PCMCIA Wireless 108Mb \$70
GN-B49G 108Mb Wireless Router \$145
GN-WIAG PCI Wireless 108Mb \$65

ACCESSORIES

CPU Fan (Intel P4 / AMD Athlon)
3D Cooler Pro \$59
3D Cooler Ultra \$89
3D Ultra GT \$99

VisionDTV Ter \$110

Digital Terrestrial PCI Card



- TV & Radio in Digital Quality
- TV with Time-Shifting
- Schedule Video Recording
- Free CyberLink Power2Go

VISIONPLUS
Digitize Your Vision

SPECIALS

○ LCD



FP737B-D 19ms + DVI \$369
FP937S 12ms + DVI \$729
FP71E+ 8ms + DVI \$549

○ PROJECTOR



PB6100 SVGA 1500ANSI \$1399
PB6200 XGA 1700ANSI \$2299

○ MP3



Joybee 125 256Mb \$200
Joybee 110 256Mb \$185
Joybee 150 128Mb \$205

○ NOTEBOOK



Joybook 5100U V03 \$1750
Joybook 5100U V04 \$1900



FLASH MEMORY
USB Hard Drive
\$30 / \$15



SPEAKER
LOGITECH
X-320 \$70
X-530 \$110
X-560 \$95
X-850 \$135
Z-5300THX \$258



SD CARDS
128 Mb \$40
256 Mb \$65
512 Mb \$85
1G \$130

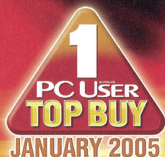


DVD WRITER
LG
16X DVD Writer
Dual Layer \$100



MEDIA
UL-TRAN
10 Speed
4x DVD-R
PRINCO
50 Speed
4x DVD-R \$5

BenQ



Enhance PC Speed & Performance

"This one is a good all-rounder, ideally suited to both latest Athlon 64 and Intel Pentium 4 systems for any applicatoins" - PC USER

Prescott Ready

- Intel Prescott Ready 24 Pin connector
- Enclosed with 20/24 pin converter (optional)
- Separate 12V rails for CPU and Peripheral.
- Ultra Silent design meets requirement of silence under 20dB
- Latest ATX 12V 2.0 with backwards compatibility
- Compatible with the latest Intel and AMD Processors



- Thermal sense DC Fan
- 6 smart housing Molex Power connector fulfill user's need
- 2 Serial ATA connector for new HDs and optical drives
- Over-Voltage, over-current and short circuit protection
- Black coating with 12cm super quiet fan
- Available 300W, 400W, 500W (Various)

SILEPOWER

Wide Range of Fortune Tec Power Supply from 300W, 400W, 460W, 525W and EPS 12V for Xeon 460W, 550W

KA-747 Jet Engine Turbine Gaming case

READY to take OFF ?



- Gaming party
- Turbine fan cooling engine
- -don't getsucked in
- Funky and exciting
- Suit:P4/P5 ATX M/B
- 12cm front case fan Blue Light
- Display side panel with Air Guide / blue light fan
- USB2/Audio/1394/ Fan Controller
- Optional with Fortune Tec gaming 300-500W Power Supply

Feel so cool !



KA-6AR6BA, KA-6C29BA, KA-6KGD

Corporate among Fashions



KA-6AR6BA

KA-6C29BA

KA-6KGD (Micro ATX)

- Intel ATX tower - Socket 775 (478)/AMD Ready
- Intel 38C thermal advantage case
- Front access USB/firewire/Audio
- Best used with Fortune Tec Silepower for the best result
- Quiet with optimal thermal conditions at the max speed

FortuneTec

<http://www.fortunetec.com.au>

Head Office: Fortune Tec P/L
(Sydney) Unit 2, 13 Millennium Court,
Silverwater NSW 2128
Ph: 02 9748 0001 Fax: 02 9748 0095
Email: sales@fortunetec.com.au

Melbourne: Fortune Tec (Vic) P/L
119/45 Gilby Road,
Mount Waverley, VIC 3149
Ph: 03-95588099 Fax: 03-95589828
Email: salesvic@fortunetec.com.au

All other brands or product names are trademarks registered of their respective holders and are recognized as such.

Find out more additional products, online ordering and updated prices from

www.computeronline.com.au

COMPUTER PARTS & ACCESSORIES



CPU's		Motherboards		Memory		Video cards		Sound cards	
Intel		Pentium 4		Call for the latest prices		ASUS		CREATIVE	
Celeron 2400	\$115	Gigabyte 81848PG	\$109	256M pc133	\$69	64Mb GeForce 4 MX440 TV out PCI	\$89	Live DE 5.1	\$59
Celeron 2800	\$135	Gigabyte 85661FXM	\$105	512M pc133	\$135	128Mb GeForce 4 MX440 TV out AGP	\$80	Audigy 2S 7.1	\$169
P4 - 3.0GHz 800	\$229	Gigabyte 8IPE1000pl	\$160	256M DDR 3200	\$55	128Mb GeForce FX5200 TV out AGP	\$90	Audigy 2S Platinum	\$225
P4 - 3.2GHz 800	\$329	Gigabyte IG1000pro	\$159	512M DDR 2700/3200	\$109			Audigy2 NX	\$215
AMD		Gigabyte 8I95G-P	\$219	1G DDR 3200	\$289	ASUS GeForce FX5200 9520 magic 128M		Networking	
Sempron 2400	\$96	Gigabyte 8I915P-P	\$199	KINGMAX		Asus ATI 9200SE 128M AGP	\$75	NIC 10/100Mb	\$12
Sempron 2600	\$130	Gigabyte 8IPE775-P	\$169	256M DDR 3200	\$66	Asus ATI 9550D 128M AGP	\$140	SMC 10/100Mb	\$20
Sempron 3100	\$190	Gigabyte 8IPE775-G	\$149	512M DDR 3200	\$119	Asus ATI X300SE 128M PCI-X	\$80	8 port switch 10/100	\$29
Athlon XP 2800	\$245	ASUS P45800-VM	\$99	1Gb DDR 3200	\$299	Leadtek MX4000 A180 8x 64M	\$149	5 port switch 10/100	\$39
Athlon XP 3000	\$245	ASUS P45800	\$89	Corsair DDR 1G TwinX	\$319	Leadtek FX5200 A340T 128M	\$199	Nelgor WGR614	\$104
Athlon XP 3200	\$308	ASUS P4P800EDeluxe	\$189	Corsair DDR 512 G TwinX	\$199	Leadtek FX5200 A340T 256M	\$356	Nelgor RP614	\$86
Athlon 64 3000	\$229	ASUS P4P800S-X	\$109	Corsair DDR2 1G 5400S480	\$149	Leadtek FX6600GT 128M	\$529	USB hub 4 port 1.1	\$13
Hard disks		ASUS P5GD1	\$219	Corsair DDR2 256 5400S149	\$149	Gigabyte FX6800 128M	\$119	USB hub 4 port 2.0	\$35
Notebook 40Gb	\$132	ASUS P5GD2 Deluxe	\$308	Kingston DDR 1G kit	\$269	Gigabyte FX5500 128M	\$139	Removable Storage	
Notebook 60Gb	\$184	ASUS P5GD2Premium	\$358	Kingston DDR 512 kit	\$139	Gigabyte FX5900 128M PCI-X	\$329	Floppy drive	\$20
7200 RPM		ASUS P5P800	\$189	Gell DDR 512M	\$140	Gigabyte FX6400 128M PCI-X	\$209	External box 2.5" USB	\$29
WD 4008B 40Gb	\$77	Elitegroup 661FX-M	\$59	Gell DDR 256M	\$79	Gigabyte FX6400 128M PCI-X	\$209	External box 3.5" USB	\$49
WD 4008B 40Gb 8m	\$79	AMD Athlon / Duron		USB Flash memory		ATI Radeon GeCube 9200SE 128M PCI	\$378	External box 5.25" USB89	\$59
WD 8008B 80Gb	\$85	Gigabyte 7V4M400	\$85	256M pc133	\$89	ATI Radeon GeCube 9600XT 128M	\$378	Monitors	
WD 8008B 80Gb 8m	\$94	Gigabyte 7N400L	\$109	512M DDR 2700	\$69	ATI Radeon Sapphire 9200SE	\$239	17" Samsung 793DF	\$184
WD 12008B 120Gb	\$115	Gigabyte 7V400L-R259P	\$109	512M DDR 2700	\$135	ATI Radeon Sapphire 9600XT	\$289	17" Acer AC711	\$165
WD 1200JB 120Gb 8m	\$125	Gigabyte 7N400L	\$109	1G DDR 2700	\$369	ATI Radeon Powercolor 9800Pro	\$349	17" Philips 107E	\$162
WD 20008B 200Gb 2m	\$159	Gigabyte 7N8N	\$135	CompactFlash Memory		CD Writers / DVD writers		17" LG 1705	\$160
WD 2000JB 200Gb 8m	\$169	Gigabyte 7N8N-Pro	\$180	128M CompactFlash	\$35	Sony CRX230E 52x24x52 IDE drive oem	\$55	17" LCD Benq 71E	\$399
Maxtor 40Gb	\$79	Gigabyte 7N8N-Pro	\$180	256M CompactFlash	\$45	Sony CRX320E 52x24x52 16x DVD oem	\$79	17" LCD Benq 731	\$399
Maxtor 80Gb	\$92	Gigabyte 7N8N-Pro	\$180	512M CompactFlash	\$73	Liteon 52x24x52 IDE kit	\$40	17" LCD LG 1710M	\$495
Maxtor 120Gb	\$135	Gigabyte 7N8N-Pro	\$180	1G CompactFlash	\$139	Liteon 52x24x52 USB external kit	\$89	17" LCD Mitsubishi 175 S479	\$499
Maxtor 120Gb 8m	\$125	ASUS A7N8X-X	\$109	2G CompactFlash	\$299	Liteon 52x24x52 16x DVD USB external kit	\$109	17" LCD Acer 1731	\$550
Maxtor 200Gb 8m	\$170	ASUS A7N8X-E Deluxe	\$155	Secure Digital Memory		Liteon 52x24x52 16x DVD Combo	\$66	17" LCD Samsung 710N5499	\$499
Seagate		ASUS A7V600-X	\$99	128M Secure Digital	\$33	ASUS CDRW523252 52x24x52 IDE kit	\$45	Cases / Power supply	
Barracuda 40Gb	\$79	ASUS ABN-SU deluxe	\$290	256M Secure Digital	\$49	Samsung SM-252FRNS 52x24x52	\$36	ATX midi case	\$65
Barracuda 80Gb	\$89	ASUS ABN-SU deluxe	\$290	512M Secure Digital	\$89	Samsung SM352BRNS 52x24x52 16x DVD	\$399	ATX Aopen H60	\$143
Serial ATA 80Gb 8m	\$99	ASUS KBV deluxe WIR525	\$209	1G Secure Digital	\$139	LG GCC-4520B 52x24x52 IDE DVD	\$60	ATX Mosaic KA380	\$145
Barracuda 120Gb	\$119	ASUS KBV deluxe WIR525	\$209	xD Memory		LG GCC-4520B 52x24x52 16x DVD	\$40	ATX Mosaic KA-628S120	\$109
Barracuda 120Gb 8m	\$149	ASUS KBV deluxe WIR525	\$209	256M / 512M xD 98/155	\$155	LG GSA41638 DVD 16x burner	\$109	ATX Mosaic KA-747	\$129
Barracuda 160Gb 8m	\$145	ASUS KBV deluxe WIR525	\$209	USB Flash drive		LG CDRW523252 52x24x52 16x DVD/burner	\$225	Antec Sanatna	\$179
Serial ATA 160Gb 8m	\$165	ASUS KBV deluxe WIR525	\$209	USB drive 128M 2.0	\$29	Pioneer 109 DVD burner oem	\$129	Antec Super Lanboy 142	\$142
MS Software		ASUS KBV deluxe WIR525	\$209	USB drive 256M 2.0	\$49	Sony DRU710A DVD burner	\$135	ATX Aopen H60	\$143
Windows XP Home	\$132	ASUS KBV deluxe WIR525	\$209	USB drive 512M 2.0	\$85	Sony DRX710UL DVD burner External	\$119	ATX Mosaic KA380	\$145
Windows XP Pro oem	\$215	ASUS KBV deluxe WIR525	\$209	USB drive 1G 2.0	\$139	Sony DW-D26A 16x Dual Layer	\$215	ATX Mosaic KA-628S120	\$109
Windows 2000 oem	\$242	ASUS KBV deluxe WIR525	\$209	USB card reader 7 in 1	\$40	Liteon LDW-1653S DVD burner	\$115	ATX Mosaic KA-747	\$129
Office 2003 Basic	\$264	ASUS KBV deluxe WIR525	\$209	CD & DVD Roms		Liteon SOHW-1653S EX USB DVD burner	\$185	Antec Sanatna	\$179
Office 2003 student	\$242	ASUS KBV deluxe WIR525	\$209	52x CDROM	\$25			Antec Super Lanboy 142	\$142
Office 2003 professional	\$295	ASUS KBV deluxe WIR525	\$209	52x DVD Liteon	\$39			ATX Aopen H60	\$143
Office small bus 2003	\$353	ASUS KBV deluxe WIR525	\$209	DVD 16x Samsung	\$39			ATX Mosaic KA380	\$145
Office Pro 2003 oem	\$484	ASUS KBV deluxe WIR525	\$209	DVD 16x Sony	\$45			ATX Mosaic KA-628S120	\$109

COMPUTER SYSTEMS

Configure your own computer on www.computeronline.com.au

Intel Ultra		AMD Gamer		Intel Value		Modems		Mice	
Gigabyte motherboard		Gigabyte motherboard		Pentium 4 motherboard		56k internal	\$25	Optical mouse	\$20
256m PC3200 DDR		256m PC3200 DDR		256m PC3200 DDR		Netcom 56k internal	\$33	Logitech MX510	\$69
40Gb 7200rpm HDD		40Gb 7200rpm HDD		40Gb 7200rpm HDD		56k external	\$65	Logitech MX1000	\$135
Panasonic FDD		Panasonic FDD		Panasonic FDD		Netcom Mega-Modem	\$68	Microsoft	
64m GeForce 4 MX 440		64m GeForce 4 MX 440		32m video built-in		Billion 5100 ADSL modem	\$89	Intellimouse PS/2 oem	\$15
3D sound		3D sound		3D sound card built-in		D-Link DSL-300G	\$89	Wheel optical cord	\$24
16x DVD Rom		52x CD Rom		52x CD Rom		Nelgor ADSL DG834g	\$185	Intellieye explorer oem	\$45
17" Flat monitor		17" Flat monitor		17" Acer monitor		Speakers		Keyboards	
Subwoofer speakers		Subwoofer speakers		120 watt speakers		240w SPKs	\$15	Benq PS/2	\$16
Midi deluxe ATX case		Midi deluxe ATX case		Midl deluxe ATX case		400w SPKs with Sub-woofer	\$25	Microsoft multimedia	\$36
Microsoft Multimedia KB/R		Microsoft Multimedia KB/R		Win98 keyboard		Logitech X-230 2 point Spks 575	\$175	Microsoft wireless optical	\$85
Microsoft Intellimouse		Microsoft Intellimouse		A4 mouse & pad		Logitech X-530 5 point Spks 1125	\$175	Microsoft digital media pro	\$45
8 pad		8 pad				Logitech Z-5500 5 point \$479	\$479	Logitech LX-700	\$113
						Creative SW370 2point Spks \$50	\$50	Logitech LX-700	\$135
						Creative Inspire 5200 5 Spks \$109	\$109	Logitech Cordless Desktop SE89	\$89
						Altec Lansing ACS200	\$25	Webcam	
						Altec Lansing ACS300	\$50	Logitech QuickCam express \$60	\$60
						Altec Lansing 221	\$77	Logitech QuickCam Orbit 1305	\$135
						Altec Lansing 251	\$129	Logitech QuickCam pro 4000S143	\$143

PC Supermarket

Computer products and services guide

MOBILE DATA TECHNOLOGY - MULTIPLICD - DISKMAX - SERVER 101 - XICG

For Advertising enquiries contact Nathan Hill (02) 9288 9147 - nhill@acp.com.au

Business mobile computing & data collection

Looking to use handheld computers in your business? We supply a complete range of products, from a simple PDA to a heavy duty industrial style handheld computer, complete with built in bar code scanner. Need data collection or full mobile data application software as well? Use our Pendulum software for Pocket PC devices to quickly and easily create your own applications. Download your **FREE 30 day trial** version of Pendulum from our website at www.mdtpty.com.au. Alternatively, we can create your Pendulum based application for you. Call us on 1800 737 660 to discuss your requirements.

Order your mobile data hardware and combined hardware/Pendulum bundles on line at www.mdtpty.com.au.

Pendulum

*Prices correct at time of going to press but may vary - check website for latest prices. Prices quoted exclude carriage.



SYMBOL SPT1550

Symbol's entry level Palm OS bar code scanning terminal. Comes complete with Easybar - easy to use bar code data collection software. SPT1550/Easybar kit \$799 (\$878 inc GST).



PSION-TEKLOGIX NETBOOK PRO

Get the longer battery life and 'instant on' advantages of CE.NET - but in a mini laptop format! Psion-Teklogix Netbook Pro models from \$1980 (\$2178 inc GST).



SYMBOL MC50

The new Pocket PC 2003 based 'Enterprise PDA' from Symbol - built in bar code scanner with choice of keyboard layouts from \$1475 (\$1622.50 inc GST). Symbol MC50/Pendulum complete starter kits from \$1748 (\$1922.80 inc GST).



PENDULUM SOFTWARE

Create your own data collection applications for your Pocket PC devices. Pendulum Data Collector Starter Suite \$122.50 (\$134.75 inc GST). Pendulum Data Collector additional runtimes \$30 (\$33 inc GST).



PSION-TEKLOGIX WORKABOUT PRO

A full CE.NET industrial style handheld. Mono screen models from \$1170 (\$1287 inc GST). Colour screen models from \$1880 (\$2068 inc GST). Colour screen/Pendulum complete starter kits from \$2135 (\$2348.50 inc GST).



GRABBA

Add bar code scanning to your PDA. Versions available for most popular PDAs from \$675 (\$742.50 inc GST).



PC BARCODE SCANNER

75mm CCD bar code scanner, available in USB, KB wedge and RS232 versions from \$119 (\$130.90 inc GST).

Mobile Data Technology Pty Ltd



*Handheld terminal Pendulum kits include relevant hardware and accessories to create a complete working system (e.g. cables/chargers etc). See our website for full list of kit components.

See our website for more options/bests values. All trademarks acknowledged.

Call 1800 737 660

All items subject to availability. E & O E.

Go to www.mdtpty.com.au to see more of our range

CD & DVD DUPLICATION

BUSINESS CARD AND MINI CDs
IN HOUSE MULTIMEDIA, DESIGN,
PRINTING & PACKAGING
DVD AUTHORIZING
ANY QUANTITY



MultipliCD
CD DUPLICATION SERVICES



689 Malvern Rd, Torrak, Vic, 3142
www.duplication.com.au
Email: sales@duplication.com.au
PH: (03) 9827 6588



CD & DVD Duplication

Professional Disc Duplication Services
Super fast turnaround / Competitive Prices

Custom Silkscreen Printing on Blank CD-R

Visit our web site for full range of services

sales@diskmax.com.au

www.diskmax.com.au

DISKMAX (02) 9699 3333



Server101
WEB HOSTING

• web hosting • dedicated servers • domain registration • partner programs
Level 12/301 Coronation Drive Milton • PO Box 1508, Milton BC Queensland 4064 • ph:07 3876 6101 • fx:07 3876 3101

Did you know...?

\$140.00
/ 2 years

secure your **.com.au**
domain name now
for only

\$79.00
/ 2 years

+ FREE domain transfers

Server101 now offers
discounted domains in
addition to their popular
web hosting packages!

Call now (07)3876-6101
or visit us online at

www.Server101.com

web hosting

Server101 is your local web hosting
solutions provider. We are known
for our **fast, reliable service &
outstanding technical support.**

Featuring:

- 3GB traffic
- 70mb of space
- 15 Mailboxes
- frontpage
- php/perl
- **FREE setup**
- **FREE spam filtering**
- & lots more...

plans start at
\$14.60
per month
basic account

eCommerce

Build your online store with **Server101's**
integrated shopping cart solution. It's
easy to use & fully customisable so you
can reflect your unique brand.

Featuring:

- Payment gateway support
- Fully customisable
- User friendly store management
- Secure server
- **FREE trial**
- & lots more

plans start at
\$28.30
per month
premium account

why Server101?

“As eBusiness consultants in the Internet
and Web development industry, it is
essential that we refer our clients to the
best hosting service available.”

We found that to be
Server101 - it's **100%**
reliable and we
always receive
fast, friendly and efficient
customer service”



xicg.com

MYOB RetailReady \$899

Computer Packages

Office PC > \$1218.00
Home PC > \$1472.00
Pos PC > \$1296.00
Power PC > \$2219.00

Call for more details on the
computer packages today

All Offers expire
30th April 2005

Scanners

Metrologic MS9520 > \$349.00
Posiflex CD-2860 > \$230.00
Gino Fuzzy Scan FBC6860 > \$329.00

Desktop Printers

Epson TM130III > \$799.00
Citizen CBM1000 > \$749.00
Star SP542 > \$625.00

Cash Drawers

Cash Box 420 > \$145.00
Posiflex CR-1300 > \$195.00
Epson Sirmine > \$450.00

**AUSTRALIA'S
LARGEST
ONLINE
SHOP FOR
RETAILERS!**

RetailManager
MYOB
PROFESSIONAL



For this special price quote reference **03AC22464**
> this price is for phone order only and ex delivery

XICG > 5b Claremont Street South Yarra 3141 Ph: 1800 811 821 Fax: 03 9827 3977 Email: team@xicg.com

MARCH 2005

Prices available from 1st to 31st March 2005

TOSHIBA

NEW TOSHIBA A3

Performance
and value.

**Available
NOW!**



PAGE 5

IMATION



DISK STAKKA

Never waste time searching
for disks again.

M4871

\$185

PAGE 30

APC



BACKUP UPS

Power protection for
your work stations.

from

\$159

PAGE 25

EXCLUSIVE DESKTOP BUNDLE

**Great
bundle
at a great
price**



acer

SEE PAGE 9 FOR MORE DETAILS

\$1,699

INDEX

MARCH 2005

PRICING

- All purchases are subject to Harris Technology's Terms and Conditions and Returns Policy found at ht.com.au.
- Prices in this catalogue include GST but exclude delivery charges.
- Display accessories shown in photographs throughout this publication are not included in the price.
- All items in this publication have been included in good faith on the basis that the goods will be available at the time of sale. A failure by a supplier to deliver in accordance with sample, description, or at all, may result in some lines being unavailable.
- While every care has been taken to ensure accuracy in this catalogue, we reserve the right to change incorrect prices resulting from a printing or typographical error.
- Harris Technology publishes price changes and any other important corrections regarding this catalogue both on its website ht.com.au, through notices in store and and by public notice in The Australian at the earliest opportunity.

ORDERING & DELIVERY

Orders can be collected from one of our locations or delivered, anywhere Australia wide. Delivery times quoted by sales staff are our best estimates based on information received from the manufacturers. Please inquire about all freight charges as they vary for delivery locations and items purchased. The following estimates are offered as a guide only based on state capital metropolitan deliveries.

UNDER 3KG \$10

3 KG - 10 KG \$17

OVER 10 KG PLEASE CALL

DESKTOPS, NOTEBOOKS, SERVERS & HANDHELD

Sony Notebooks	4
Toshiba	5-7
Acer Notebooks & Desktops	8-9
HP Notebook & Pocket PC's	10
HP Desktops	11
O2	12
PalmOne	12

BACK-UP & NETWORKING

Linksys	14
Watchguard	15
D-Link	16-17
Netgear	18-19
Netcomm	20
Comsol & Serverlink	22-23

DISPLAYS & PROJECTORS

NEC	36
HP Projectors	37
Sony Projectors	38
Samsung Monitors	44

PRINTERS, SCANNERS & CONSUMABLES

Sony Digital Cameras	38
Epson	39
HP Printers & Consumables	40-43
Brother	43
Samsung Printers	45
Canon Printers	46
Konica Minolta	47
Lexmark	48
Kyocera Mita	49

MULTIMEDIA

Pinnacle Systems	33
------------------	----

ACCESSORIES

Targus	13
Belkin	21
Logitech	35

STORAGE & MEDIA

Quantum	24
APC	25
Pioneer	26
Maxtor	27
Sandisk	28
Seagate	29
Imation	30
Iomega	31
Region 4	32
Lacie	34

SOFTWARE APPLICATIONS

Zone Alarm	50
Crystal Reports	50
Dantz Retrospect	51
Legrand	51
Corel	52
Macromedia	53
FileMaker	54
Quicken	55
TurboCad & Orgchart	56
AutoDesk	57
Symantec	58-59
MYOB	60
Microsoft	61-63

Sales Enquiries
General Enquiries

1300 13 9999
1300 13 5555

Fax
Web

1300 13 6666
ht.com.au

For specialised Government & Education pricing & services contact

Government

1300 72 9010

Education

1300 72 9020

Welcome

Message from Craig Dower

Dear Customer

I would like to take this opportunity to introduce myself.

In January, I became Harris Technology's Managing Director. I am very pleased to be part of the team here at Harris Technology, as well as being a part of the Coles Myer group.

Harris Technology has always tried to differentiate itself based upon our customer service, our wide range of products, and the multiple channels that our customers can utilise. Our aim has always been to make it easy for you to work with us, and to develop long term relationships with you - our customers.

We have grown a lot as a company, but those goals remain even truer today.

I would like to ask for your help. In order to ensure that we can continue to innovate and deliver on our promises, we want to get your input. I invite you to provide any feedback you may have by visiting the 'feedback' page on our web-site at www.ht.com.au. I know it is a lot to take 15 minutes out of your day to do this, and we really appreciate it.

We will also keep you updated on key initiatives and developments in the business on the "Harris News" page on our web site.

Regards

Craig Dower
Managing Director



Craig Dower
Managing Director

FACE-TO-FACE, PHONE, OR WEB... YOU DECIDE



For face-to-face service or to see a selection of our products on display, visit one of our business centres. Most are open 7 days a week and they're all staffed by friendly knowledgeable experts. Visit ht.com.au for the location and operating hours of your nearest centre.

To speak to an expert without leaving your desk, our telephone call centre may be more your style. Our product specialists are available to offer advice and take orders Monday to Friday 8.30am to 5.30pm - just call 1300 13 9999.

If business hours are a little hectic or you just want to get straight down to business, visit us online at ht.com.au. Search, browse, order, and pay online - 24 hours a day, 7 days a week. Goods are available for pick up or delivery.

If you've ever been responsible for IT purchases, you'll know how frustrating it is when you can't get the customer service you want - when you want it.

At Harris Technology we try to help minimise this frustration by providing different options for you to decide how and when you deal with us...

VAIO NOTEBOOKS

THE ULTIMATE
MULTI MEDIA POWER
PACKAGE

NEW!

THE POWER OF A DESKTOP,
THE PORTABILITY OF A
NOTEBOOK, THE STYLE OF
SONY.

Introducing the full featured notebook with Centrino mobility and large 17" display, designed to out perform in the office and to entertain at home.

VGN39GP

- Pentium M 770 2.1GHz
- 17" WUXGA with Clear Bright and Dual Lamps
- 512MB RAM
- 100GB HDD*
- 128MB Video RAM
- DVD±RW Dual Layer Drive
- Wireless LAN 802.11 b/g
- Windows XP Professional
- Includes stereo speakers & port replicator

Rent* \$46.13/wk

R3049

\$4,999

*RENTSMART

The figures quoted are based on a per week basis over 3 years. Terms and conditions apply.

PLEASE NOTE:

All purchases subject to terms & conditions and returns policy. Delivery charges may apply. Not all items stocked in store but available for pick-up/delivery.

FAST & SLIM 15.4" WIDE SCREEN



VGNFS15GP

- Pentium M 730 1.6GHz
- 15.4" WXGA with Clear Bright
- 512MB RAM
- 40GB HDD*
- DVD/CD-RW Combo Drive
- Wireless LAN 802.11b/g
- Windows XP Professional



NEW!

Rent* \$25.84/wk

Q9516

\$2,499

VGNFS18GP

- Pentium M 740 1.7GHz
- 15.4" WXGA with Clear Bright
- 512MB RAM
- 80GB HDD*
- DVD±RW Dual-Layer Drive
- Wireless LAN 802.11b/g
- Windows XP Professional



NEW!

Rent* \$30.76/wk

Q9515

\$2,999

COMPACT WITHOUT COMPROMISE



VGNFS38GP

- Pentium M 740 1.7GHz
- 13.3" WXGA with Clear Bright
- 512MB RAM
- 60GB HDD*
- DVD±RW Drive
- Wireless LAN 802.11b/g
- Integrated bluetooth
- Windows XP Professional



NEW!

Rent* \$39.43/wk

Q9514

\$3,999

VGN72GPS

- Pentium M 735 1.2GHz (ULV)
- 10.6" WXGA with Clear Bright
- 512MB RAM
- 60GB HDD*
- DVD±RW Drive
- Wireless LAN 802.11b/g
- Integrated bluetooth
- Windows XP Professional



NEW!

Rent* \$39.43/wk

Q9443

\$3,999BONUS
BUNDLED
VAIO BAG

VGNB55G

- Pentium M 715 1.5GHz
- 14.1" XGA LCD
- 256MB RAM
- 40GB HDD*
- DVD/CD-RW Combo Drive
- Wireless LAN 802.11b/g
- Weighs 2.3kg
- Windows XP Home



Rent* \$22.40/wk

Q3573

\$1,999

VGNB99GP

- Pentium M 725 1.6GHz
- 14.1" SXGA Display
- 512MB RAM
- 40GB HDD*
- DVD±RW Dual-Layer Drive
- Wireless LAN 802.11b/g
- Weighs 2.3kg
- Windows XP Professional



NEW!

Rent* \$25.84/wk

R0602

\$2,499

*Accessible capacity of hard drive may be less due to pre-installed software and recovery partition. Up to 5GB used for recovery partition may be unavailable. Recovery discs not included with some brands of notebooks and desktops

TOSHIBA

harris technology



Notebooks

TECRA A3 & A4 SERIES

TECRA A3

TOSHIBA'S TECRA A3 NOTEBOOK

Featuring the latest Mobile Intel Pentium M or Intel Celeron M processors and with standard battery life of up to 4 hours, all models in the series deliver high levels of performance and reliability. Helping to maximise productivity is the full range of expansion and connectivity features including a PC Card slot, three USB 2.0 ports, an international V.92 modem and a 10/100 Mbit Ethernet LAN port. **Optional Port Replicator for the A3 Tecra notebook range available.**



TECRA	A3	A3	A3
PROCESSOR	Cel-M 360 1.4GHz	Cel-M 370 1.5GHz	P-M 730 1.6GHz
RAM STD	256MB	512MB	512MB
HARD DRIVE*	40GB*	40GB*	60GB*
SCREEN	15" XGA TFT	15" XGA TFT	15" XGA TFT (CSV)
OPTICAL DRIVE	DVD/CD-RW	DVD-SuperMulti	DVD-SuperMulti
56K V.92 & 10/100 LAN	Yes	Yes	Yes
WIRELESS LAN	WiFi Antenna	WiFi a/b/g	WiFi a/b/g
WARRANTY	1 year	1 year	1 year
OP SYSTEM	XP Pro	XP Pro	XP Pro
RENT*	\$19.71/wk	\$23.41/wk	\$27.20/wk
PART NUMBER	R0315	R0212	Q9055
PRICE	\$1,759	\$2,089	\$2,639

TECRA A4

For business professionals the perennial question remains "your business or your life"? Why not enjoy both with the Tecra A4 Notebook PC series from Toshiba. You'll work smarter and faster than ever before with its stunning array of performance features. Then enjoy its reliable mobility to see less of the office and more of your family and friends. And all at a price that helps balance the books as well. Includes Centrino mobile technology.



TECRA	A4	A4
MOBILE PENTIUM M	730 1.6GHz	740 1.7GHz
RAM STD	512MB	512MB
HARD DRIVE	60GB*	60GB*
SCREEN	15.4" WXGA TFT	15.4" SWXGA+ TFT
VIDEO RAM	up to 128MB Shared	64MB Dedicated
OPTICAL DRIVE	DVD SuperMulti	DVD SuperMulti
WIRELESS LAN	WiFi a/b/g	WiFi a/b/g & BT
WARRANTY	1 year	1 year
OP SYSTEM	XP Pro	XP Pro
RENT*	\$30.45/wk	\$33.84/wk
PART NUMBER	R2864	R3631
PRICE	\$2,969	\$3,299

Accessible capacity of hard drive may be less due to pre-installed software and recovery partition. Up to 5GB used for recovery partition may be unavailable. Recovery discs not included with some brands of notebooks and desktops.

toshiba.ht.com.au



SATELLITE P30



- Mobile Intel Pentium 4 538 with HT technology (3.2GHz)
- 17" WXGA TFT
- 80GB (5400rpm)*
- DVD SuperMulti (DVD±RW DVD-RAM)
- ATI mobility Radeon 9700 with 64MB RAM
- 56K modem & LAN, WiFi a/g
- 3 x USB 2.0 & 5-in-1 reader
- CD play buttons
- Windows XP Professional

Rent* \$37.20/wk

Q3620

\$3,749

SD MEMORY CARDS



K0510	128MB	\$35
H9139	256MB	\$58
M5838	512MB	\$91
R4059	1GB	\$168

*RENTSMART

The figures quoted are based on a per week basis over 3 years. Terms and conditions apply.

PLEASE NOTE:

All purchases subject to terms & conditions and returns policy. Delivery charges may apply. Not all items stocked in store but available for pick-up/delivery.



TOSHIBA WIRELESS PROJECTORS



TW90 Model

UNPLUG AND PROJECT TODAY!

Make presentations even easier, connect wirelessly with your projector from your notebook. Project whatever application or image is on your notebook screen, without the need for cables. Makes setting up easier and quicker, switching users is much easier without the hassle of tangled cables and you can even project to multiple wireless projectors (4) at the same time for professional presentations in larger environments.

SW20
1400 ANSI, 3.0kg, SVGA
Rent* \$23.73/wk

R4044 **\$2,295**

TW90
2200 ANSI, 2.9kg, XGA
Rent* \$38.04/wk

R4045 **\$3,833**

*RENTSMART

The figures quoted are based on a per week basis over 3 years. Terms and conditions apply.

PLEASE NOTE:

All purchases subject to terms & conditions and returns policy. Delivery charges may apply. Not all items stocked in store but available for pick-up/delivery.

TECRA M3 SERIES

TECRA M3

The Tecra M3 delivers a balance of portability, hardware and software image stability with high performance. The magnesium alloy chassis provides added durability whilst making it the lightest in its class. Combined with extended battery life (with optional high capacity and internal SelectBay battery), this makes the Tecra M3 the ideal road ready business notebook. Featuring Intel Pentium M Processors, a choice of DVD/CD-RW or DVD SuperMulti optical disk drive, Gigabit Ethernet, Firewire and Bluetooth options. The M3 provides a foundation to significantly boost business productivity.



MODEL	TECRA M3	TECRA M3	TECRA M3	TECRA M3
MOBILE PENTIUM M	730 1.6GHz	740 1.7GHz	750 1.8GHz	760 2GHz
RAM STD (DDR II)	512MB	512MB	512MB	2 x 512MB
HARD DRIVE	40GB#	60GB#	60GB#	80GB#
SCREEN	14" XGA TFT	14" XGA TFT	14" XGA TFT	14" SXGA+ TFT
VIDEO RAM	64MB	64MB	128MB	128MB
OPTICAL DRIVE	DVD/CD-RW	DVD SuperMulti	DVD SuperMulti	DVD SuperMulti
WIRELESS LAN	Upgradable	WiFi a/b/g	WiFi a/b/g	WiFi a/b/g
WARRANTY	1 year	1 year	1 year	1 year
OP SYSTEM	XP Pro	XP Pro	XP Pro	XP Pro
RENT*	\$29.32/wk	\$35.84/wk	\$38.73/wk	\$42.84/wk
PART NUMBER	R3721	R3722	R3723	R3724
PRICE	\$2,859	\$3,299	\$3,599	\$4,345

TECRA S2

The Toshiba Tecra S2 delivers outstanding performance and seamless wireless connectivity to business computing. Now free to perform at their best wherever business takes them, executives will appreciate the added mobile productivity of the Tecra S2 with up to 4.5 hours of battery life. Includes modem and LAN capabilities.



MODEL	TECRA S2	TECRA S2	TECRA S2
MOBILE PENTIUM M	740 1.7GHz	750 1.8GHz	760 2GHz
RAM STD	512MB	512MB	2 x 512MB
HARD DRIVE	60GB#	80GB#	100GB#
SCREEN	15" XGA TFT	15" SXGA+ TFT	15" UXGA TFT
VIDEO RAM	64MB	128MB	128MB
OPTICAL DRIVE	DVD SuperMulti	DVD SuperMulti	DVD SuperMulti
WIRELESS LAN	WiFi a/b/g	WiFi a/b/g, BT	WiFi a/b/g, BT
WARRANTY	1 year	1 year	1 year
OP SYSTEM	XP Pro	XP Pro	XP Pro
RENT*	\$30.76/wk	\$37.11/wk	\$44.45/wk
PART NUMBER	R3726	R3727	R3728
PRICE	\$2,999	\$3,739	\$4,699

Accessible capacity of hard drive may be less due to pre-installed software and recovery partition. Up to 5GB used for recovery partition may be unavailable. Recovery discs not included with some brands of notebooks and desktops

TOSHIBA

harristechnology



Notebooks

PORTÉGÉ SERIES

PORTÉGÉ M100

COMPACT AND LIGHT WITH 3 YEAR WARRANTY

Ready to work when and where you are, the Portégé M100 delivers an advanced combination of ultra-portability and expansion capability. These functions combine to ensure your investment is well protected. Forged in magnesium, the Portégé M100 portrays success while delivering absolute reliability – just the qualities you require to perform brilliantly on the road and in the mobile world.



- Intel Pentium-M 1.2GHz Low Voltage
- 1MB L2 cache
- 256MB DDR RAM
- 60GB hard drive*
- 12.1" XGA TFT display
- Limited stock: Not available in conjunction with any other offer on this product.



- DVD/CD-RW Combo Drive
- 56k V.90 Modem
- Fast Ethernet, WiFi 802.11b
- Microsoft Windows XP Professional
- 3 Year Warranty

Rent* \$30.76/wk

\$2,999

R0453

PORTÉGÉ SERIES



*These three models have Intel Centrino technology

PORTÉGÉ	R100*	M200 TABLET *	M100*
MOBILE PENTIUM M	1.1GHz	725 1.6GHz	1.4GHz
RAM STD	2 x 256MB	512MB	512MB
HARD DRIVE	40GB*	80GB*	80GB*
SCREEN	12.1" XGA	12.1" SXGA+	12.1" XGA
56K V.90 & 10/100 LAN	Yes	Yes	Yes
WIRELESS LAN	WiFi b/g	WiFi b/g & BT	WiFi b/g & BT
OPTICAL DRIVE	No	No	DVD/CD-RW
WEIGHT	From 1.1kg	2.1kg	From 1.8kg
OP SYSTEM	XP Pro	XP Tablet	XP Pro
RENT*	\$38.40/wk	\$42.34/wk	\$37.66/wk
PART NUMBER	P3052	Q9507	R1307
PRICE	\$3,895	\$4,295	\$3,795

*Accessible capacity of hard drive may be less due to pre-installed software and recovery partition. Up to 5GB used for recovery partition may be unavailable. Recovery discs not included with some brands of notebooks and desktops.



TOSHIBA DLP PROJECTORS

Designed with simplicity in mind, a Toshiba projector is a lightweight, compact solution that is quick and easy to setup so that you can take it with you anywhere, anytime. And as the leading brand in mobile computers where reliability is paramount, you can trust the superior design and engineering of a Toshiba projector to last for the long run.



Image for illustration purposes only

- Excellent brightness
- Quiet operation
- 2 year warranty with 3 month hot swap

S20

1400 ANSI, 3.0kg, SVGA

Rent* \$19.04/wk

P0226

\$1,699

S80

2000 ANSI, 2.8kg, SVGA

Rent* \$26.27/wk

R0513

\$2,540

T90

2200 ANSI, 2.8kg, XGA

Rent* \$32.81/wk

P0228

\$3,199

*RENTSMART

The figures quoted are based on a per week basis over 3 years. Terms and conditions apply.

PLEASE NOTE:

All purchases subject to terms & conditions and returns policy. Delivery charges may apply. Not all items stocked in store but available for pick-up/delivery.

ACER NOTEBOOKS

ACCESSORIES

TRAVELSURE
CARRY CASEM0838 **\$49**EXTERNAL USB 1.44MB
FLOPPY DISK DRIVEL1793 **\$179**ADDITIONAL BATTERY
for TravelMate 2300 / 4000R1647 **\$300**AC ADAPTOR + POWER CORD
for 2000 and 2500 SeriesP3285 **\$137**AC ADAPTOR + POWER CORD
for 4000 SeriesQ3818 **\$137**TARGUS USB 2.0
MOBILE PORT STATIONN0426 **\$249**

*RENTSMART

The figures quoted are based on a per week basis over 3 years. Terms and conditions apply.

PLEASE NOTE:

All purchases subject to terms & conditions and returns policy. Delivery charges may apply. Not all items stocked in store but available for pick-up/delivery.

TRAVELMATE 2308WLMi

The TravelMate 2300 is the perfect partner for enhancing your efficiency and success with its combination of robust processing power, graphics capabilities, communications and dependable design.

- Intel Pentium M 715 1.5GHz
- 256MB RAM
- 40GB Hard Disk*
- DVD±RW Drive
- Modem / LAN / WiFi
- 3 x USB 2.0 ports
- Weighs 2.9kg
- Li Ion battery for up to 5 hrs of use
- 15.4" wide screen
- Windows XP Professional



Rent* \$20.72/wk

R0596

\$1,849

TRAVELMATE 4002WLMi

The professionally balanced TravelMate 4000 is well designed to optimise your productivity and amplify success, combining solid processing and graphics capabilities, with wide ranging functionality.

- Intel Pentium M 725 1.6GHz
- 512MB RAM
- 60GB Hard Disk*
- DVD±RW Drive
- Modem / LAN / WiFi
- 3 x USB 2.0 ports
- 1 x Firewire / 1 x S-Video Out
- Weighs 2.95kg
- Li Ion battery for up to 5 hrs of use
- 15.4" wide screen
- Windows XP Professional



Rent* \$25.32/wk

N9909

\$2,449ACER'S 2 HOUR COMMITMENT WARRANTY EXPRESS SERVICE
GUARANTEES THAT YOU'LL NEVER BE KEPT WAITING AGAIN

1 year return to base with 2 hour Express Service. 2 hour repair turnaround available in Brisbane, Sydney, Melbourne, Perth, Canberra, Adelaide, Hobart, Auckland, Christchurch & Wellington.

*Accessible capacity of hard drive may be less due to pre-installed software and recovery partition. Up to 5GB used for recovery partition may be unavailable. Recovery discs not included with some brands of notebooks and desktops

acer

harristechnology



Desktops

HIGH PERFORMANCE COMPUTING AT AN AFFORDABLE PRICE

ACER POWER F1 MICROTOWER SERIES BUNDLE

VERITON 7700G PENTIUM 4 BUNDLE

BONUS PC GAME WITH VERITON BUNDLE



T13+

OR



M17+

When you purchase this Acer Power F1 bundle (HT part#R5376) you will receive a bonus PC game. You will receive one of two titles either Halo or Dungeon Siege, the choice of which is at the discretion of Harris Technology. Offer is available only while stocks last.

*LEXMARK Z513 LASER PRINTER



- Up to 4800 dpi for photo quality prints
- Up to 2400 x 1200 dpi on all other paper types
- Up to 12ppm black; up to 7ppm colour

*RENTS/MONTH

The figures quoted are based on a per week basis over 3 years. Terms and conditions apply.

PLEASE NOTE:

All purchases subject to terms & conditions and returns policy. Delivery charges may apply. Not all items stocked in store but available for pick-up/delivery.

F1 CELERON BUNDLE

- INTEL CELERON 2.8GHZ
- PLUS 17"LCD WITH SPEAKERS AL1715M
- PLUS LEXMARK Z513 LASER PRINTER*

Intel Celeron 2.8GHz (533MHz)
256MB PC3200 DDR-SDRAM
40GB EIDE hard drive (7200 RPM)*
52X Write, 24X ReWrite 52X Read CDRW
1.44MB floppy drive
Includes keyboard (USB)
Includes optical mouse
Microsoft Windows XP Home
1 year manufacturers's onsite desktop warranty*

Rent* \$12.31/wk

\$1,099

VERITON 7700G PENTIUM 4 BUNDLE

- INTEL PENTIUM 4 3.0GHZ
- PLUS 17"LCD WITH SPEAKERS AL1714BSM
- PLUS LEXMARK Z513 LASER PRINTER*

- Intel Pentium 4 3.0GHz with HT Technology
- 512 MB PC3200 DDR-SDRAM
- 160GB SATA hard drive (7200 RPM)*
- Integrated Intel GMA900
- DVD +/-RW Burner (16X DVD Dual layer)
- Intel 915G chipset
- 1.44MB floppy drive
- Integrated 10/100 LAN
- Acer USB multimedia keyboard
- Acer USB optical mouse
- Microsoft Windows XP Professional
- 3 year limited manufacturers's warranty, 1st year onsite*, 2nd & 3rd years parts only

**PLUS
Bonus
PC Game**

Rent* \$19.04/wk

\$1,699

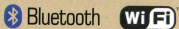
R5377

R5376

Onsite warranty coverage is limited to within a 80km radius of an Acer Onsite Service Provider location.

Accessible capacity of hard drive may be less due to pre-installed software and recovery partition. Up to 5GB used for recovery partition may be unavailable. Recovery discs not included with some brands of notebooks and desktops.

HP NOTEBOOK, POCKET PC's & SMARTPHONE

HP iPAQ H6365
POCKET PC &
GSM/GPRS
SMARTPHONE


- Processor: TI OMAP 1510
- Main memory: 64MB RAM (20MB iPAQ file store)
- Display: 240 x 320 TFT touch screen
- Audio: built in w/ 3.5mm jack
- Camera: VGA 640 x 480
- Input device: stylus
- Expansion: SD/MMCard Slot with SDIO
- Communication: integrated GSM/GPRS, 802.11b WiFi, bluetooth, infrared, USB cable
- Dimensions: 119 x 75 x 18mm
- Weight: 190g
- Battery: 1800mAh Lithium-Ion
- Microsoft Windows Mobile 2003 - phone edition
- Warranty: 1 year manufacturer's parts and labour

Rent* \$14.00/wk
\$1,249

Q2078

***RENTSMART**

The figures quoted are based on a per week basis over 3 years. Terms and conditions apply.

PLEASE NOTE:

All purchases subject to terms & conditions and returns policy. Delivery charges may apply. Not all items stocked in store but available for pick-up/delivery.

HP COMPAQ nx9040 NOTEBOOK

The HP Compaq nx9040 Business Notebook is packed with advanced technology features offering solid performance at a surprisingly affordable price.



- Intel Celeron M 330 1.4GHz
- 256MB RAM (2GB Max)
- 40GB hard drive#
- 15" XGA Display
- DVD/CD-RW combo drive
- Built in 56K Modem/Fast Ethernet
- Intel Extreme Graphics 2 with 64MB Shared Video RAM
- Weight 3.08kg
- S-Video output
- Windows XP Professional
- 1 year standard manufacturer's warranty



Rent* \$16.75/wk

P9885

\$1,495
HP POCKET PC's

The slim and sleek HP iPAQ series Pocket PC's make it easy to be productive at work, at home, or on the go.



(Image for illustration purposes only)

Whether you are at the beach or just stepping out of the office, you can always enjoy total control without being tied down. With its broad range of features, popular applications, expansion capabilities and multimedia solutions, you can have all the essentials you need at the affordable value you want.

All units run Microsoft Windows Mobile 2003 and come with 12 months manufacturer's warranty.

Includes: AC Adaptor, USB Sync Cable, Stylus, Companion CD and Documentation Kit

iPAQ	rz1710	hx2100	rx3417	rx3715	hx2700	hx4700
PROCESSOR	203MHz	312MHz	300MHz	300MHz	624MHz	624MHz
MAIN MEMORY	25MB RAM	64MB RAM	92MB RAM	152MB RAM	192MB RAM	144MB RAM
DISPLAY	----- 3.5" TFT touch screen 240 x 320 ----->					4" 480x640
WEIGHT	120g	164g	147g	158g	164g	187g
EXPANSION	SDIO	CF / SDIO	SDIO	SDIO	CF / SDIO	CF / SDIO
COMMUNICATIONS	BT BT & WiFi BT & WiFi BT & WiFi BT & WiFi					
RENT*		\$6.71/wk	\$7.38/wk	\$8.50/wk	\$9.85/wk	\$10.88/wk
PART NUMBER	P5971	Q2079	P5974	P5973	Q2213	P5972
PRICE	\$399	\$599	\$659	\$759	\$879	\$969

#Accessible capacity of hard drive may be less due to pre-installed software and recovery partition. Up to 5GB used for recovery partition may be unavailable. Recovery discs not included with some brands of notebooks and desktops



HP COMPAQ DC7100 SERIES DESKTOPS

SMALL FORM FACTOR DESKTOPS



Secure and serviceable, with advanced features

- Latest technology to meet the performance needs of demanding enterprises
- Advanced security features that offer maximum protection
- Offers the latest chipset for increased stability and performance
- Easily adapts to business needs ranging from expandability to space constrained environments



DC7100	SFF	SFF	SFF	SFF	SFF	SFF
PROCESSOR	3.0GHz	2.8GHz	2.8GHz	2.8GHz	3.2GHz	3.4GHz
RAM	512MB	512MB	512MB	512MB	512MB	512MB
HARD DRIVE*	40GB 7200 rpm Ultra SATA Hard Drive*					
OPTICAL DRIVE	CD DRIVE	COMBO	DVD-ROM	CD DRIVE	CD DRIVE	CD DRIVE
OP SYSTEM	Windows XP Professional					
RENT*	\$15.45/wk	\$15.55/wk	\$15.55/wk	\$14.78/wk	\$15.01/wk	\$15.05/wk
PART NUMBER	P7077	P7078	P7079	P7080	P7076	P7075
PRICE	\$1,379	\$1,399	\$1,400	\$1,319	\$1,500	\$1,700

ULTRA SLIM SERIES DESKTOPS



(Image for illustration purposes only)

- 2x256MB DDR Synch DRAM
- PC3200 (400-MHz)
- 40GB 7200 rpm Ultra SATA Hard Drive*
- Integrated Intel graphics media accelerator 900 graphics
- Integrated Broadcom NetXtreme gigabit ethernet
- 48X CD Drive
- Keyboard (USB), 2-Button optical scroll mouse (USB),
- SoundMax Digital AC97 integrated audio with internal speaker
- 6 USB 2.0 ports
- Colour: Carbonite/Silver,
- Windows XP Professional

CONVERTIBLE MINITOWER SERIES DESKTOPS



Introducing the industry's only convertible

The HP Compaq Business Desktop dc7100 convertible minitower adapts to any office environment- reconfigure the tower to desktop and vice versa in just minutes by rotating the external drive bays 90° at a pull of a lever. For storage intensive applications, the chassis accommodates up to six drives.



DC7100	MINI TOWER	MINI TOWER	MINI TOWER
PROCESSOR	Pen 4 520 2.8GHz	Pen 4 530 3.0GHz	Pen 4 530 3.2GHz
RAM	512MB DDR	512MB DDR	512MB DDR
HARD DRIVE*	40GB 7200 rpm Ultra SATA Hard Drive*		
OPTICAL DRIVE	CD DRIVE	DVD-ROM	COMBO
OP SYSTEM	Windows XP Professional		
RENT*	\$14.50/wk	\$16.02/wk	\$17.59/wk
PART NUMBER	P7072	P7071	P7070
PRICE	\$1,299	\$1,430	\$1,570

P4 2.8GHZ \$15.13/wk

Q4932 **\$1,350**

P4 3.0GHZ \$15.69/wk

Q4960 **\$1,400**

*RENTSMART

The figures quoted are based on a per week basis over 3 years. Terms and conditions apply.

PLEASE NOTE:

All purchases subject to terms & conditions and returns policy. Delivery charges may apply. Not all items stocked in store but available for pick-up/delivery.

Accessible capacity of hard drive may be less due to pre-installed software and recovery partition. Up to 5GB used or recovery partition may be unavailable. Recovery discs not included with some brands of notebooks and desktops

COMMUNICATION

Handhelds

O2 Xda SERIES

O₂XPHONE II GSM
SMART PHONE

- TI OMAP 730 200MHz
- 32MB RAM, 64MB ROM
- Tri-band 900/1800/1900
- 65k Colour (176 x 220) LCD
- Mini SD memory card slot
- Mini USB
- Bluetooth
- VGA camera
- 940mAh Li-Ion battery
- 107.5 x 44.5 x 18 mm



Bluetooth

Rent* \$7.83/wk

Q5531

\$699

XDA II MINI

- Intel Xscale 416MHz
- 64MB RAM, 64MB ROM
- Tri-band 900/1800/1900
- 65K Colour LCD
- MMC / SDIO expansion slot
- Bluetooth
- 1.3 Megapixel camera
- IrDA / USB 1.1
- 105 x 58 x 17.6 mm
- Windows Mobile 2003



Shrink an Xda II, add a 1.3 megapixel camera and bonus 256MB SD card and you have a Pocket PC to suit all walks of life! With Microsoft Windows Mobile 2003 2nd Edition for Pocket PCs, you can e-mail, MMS, SMS, access contacts, calendar, make phone calls, surf the web & access well known Microsoft applications in either landscape or portrait view.

Bluetooth

Rent* \$12.31/wk

Q5532

\$1,099

XDA IIS

- Intel Xscale 400MHz
- 128MB RAM, 96MB ROM
- Quad-band 850/900/1800/1900
- 65K Colour (240 x 320) LCD
- IrDA / USB 1.1
- MMC / SDIO expansion slot
- Bluetooth
- Integrated 802.11b WLAN
- Colour VGA Camera



Sleek, elegant and lightweight, with heavy duty performance. Windows Mobile 2003 2nd Edition for Pocket PC lets you e-mail, MMS, SMS, access contacts, calendar, make phone calls, surf the web & access well known Microsoft applications in either landscape or portrait view.

Bluetooth

Rent* \$15.12/wk

Q5533

\$1,349

FOR BUSINESSES ON THE MOVE

palmOne

Zire 72

TAKE PICTURES.
ORGANISE WORK.
SHARE LIFE.

Bluetooth



R3908

\$399

*RENTSMART

The figures quoted are based on a per week basis over 3 years. Terms and conditions apply.

PLEASE NOTE:

All purchases subject to terms & conditions and returns policy. Delivery charges may apply. Not all items stocked in store but available for pick-up/delivery.

THE HANDHELD THAT'S ALSO A
USB DRIVE & MP3 PLAYER

TUNGSTEN | T5

- 215MB¹ of storage
- Transfer files and folders back and forth to your desktop
- Use like a flash drive with another computer²
- Stunning 320 x 480 display, landscape or portrait mode
- View photos, videos³ and play MP3s
- Built in Bluetooth wireless technology
- Create and edit Word and Excel docs, view PowerPoint files
- Powerful Intel 416MHz XScale processor Palm OS 5.4



Bluetooth

Rent* \$6.71/wk

Q3013

\$599

Rent* \$7.27/wk

R3609 INCLUDES SD WIFI CARD

\$649GSM/GPRS QUAD-BAND
SMARTPHONE

Treo 650

The Treo 650 smartphone from palmOne makes it easier than ever to stay connected. It simplifies your life by combining a compact mobile phone with email, an organiser, messaging and web access. Not to mention an MP3 player, a digital camera that captures video and a vibrant colour screen that brings everything to life.

- Full featured mobile phone and Palm Powered™ organiser
- 22MB user accessible memory; SDIO/MMC
- Bright colour backlit 320 x 320 display
- Built in Bluetooth wireless technology
- Built in VGA camera
- Palm OS 5.4



Bluetooth

Rent* \$11.75/wk

R3503

\$1,049

¹160MB internal flash drive, 55MB program memory for applications & data. ²Host computer must support standard USB removable drive. ³Some files may require conversion.

GET MOBILE... GET TARGUS

BUSINESS ESSENTIALS

NOTEBOOK ESSENTIALS



FITS UP TO
15.4"
SCREENS

This limited time offer contains a fully featured case and a 4 Port Mini USB Hub in one convenient bundle.

R5080

\$79

CITYLITE SPRINT - GREY



FITS UP TO
15.4"
SCREENS

- Padded handle provides extra comfort
- Now with an extended shoulder strap
- Expanding file section

H9775

\$69

ALUMINIUM ATTACHE



FITS UP TO
17"
SCREENS

- Padded interior with security strap
- Two internal dividers for customising the case to the width of your notebook
- Self locking closure
- Scratch resistant panels

Q9517

\$149

TOP LOADING UNIVERSAL CASE N KOSKIN



FITS UP TO
15"
SCREENS

Expanding dual file section
Additional notebook or projector compartment
Shock absorbing shoulder strap
Includes patented SafePORT Air Protection
Made from luxurious Koskin

P8972

\$119

FUSION BACKPACK - GREY



FITS UP TO
15"
SCREENS

- Ergonomic back pockets
- Headphone port hole feeds back to portable CD or MP3 pocket
- Removable zippered mobile phone pouch

M2695

\$85

LADIES KOSKIN NOTEBOOK CASE



FITS UP TO
15.4"
SCREENS

- Targus proudly supporting the National Breast Cancer Foundation
- Removable notebook sleeve
 - Mobile phone compartment, card, pen holders & key clip
 - Removable cosmetics / accessory pouch
 - Full sized quick access external pocket

R5334

\$119

DIGITAL ENTERTAINMENT

FM TRANSMITTER



Transmit your favourite music from an audio source, such as a notebook, MP3 player, iPod and MD player to your own FM stereo system
10 preset memory stations
No wiring necessary between audio source device to destination output device

Q7550

\$79

MULTIMEDIA NOTEBOOK SPEAKERS



- Perfect sound, anytime, anywhere! With these innovative design and high performance speakers
- USB powered - No batteries needed
- Easy to install

Q4782

\$59

ACTIVE NOISE CANCELLATION HEADPHONES



- Enjoy music and movies with less background clamor at home, in the office or while travelling
- Perfect for in flight travel with a two prong adaptor plug
- Full over the ear cushions and adjustable headband for unsurpassed comfort

Q4782

\$79

POWER

NOTEBOOK/MODEM SURGE GUARD



Protect your modem! This guard protects the phone line as well as your modem and computer power supply.

R1883

\$39

UNIVERSAL 70 WATT AUTO/AIR ADAPTOR



Power your mobile devices wherever you go, in your car, on an aeroplane, boat or 4WD.

N2257

\$149

UNIVERSAL 70 WATT AC/DC ADAPTOR



Power on the go, anywhere. Works at home, office, car, boat or aeroplane.

N2257

\$199

PLEASE NOTE:

All purchases subject to terms & conditions and returns policy. Delivery charges may apply. Not all items stocked in store but available for pick-up/delivery.

LINKSYS®

A Division of Cisco Systems, Inc.

A LEADER IN WIRELESS NETWORKING

10/100 4 PORT VPN ROUTER RV042



- A high-reliability Internet connection-sharing router and 4 port switch for small business
- Features dual Internet ports for load balancing and connection redundancy
- Securely connects up to 30 remote office or traveling users to your office network via VPN
- Advanced SPI firewall protects your PCs from most known Internet attacks

R1358

\$399

10/100 24 PORT SWITCH + 2 GIGABIT PORTS SRW224



- 24 autosensing 10/100 full duplex, auto MDI/MDI-X ports
- Two Gigabit 10/100/1000BaseTX MDI/MDI-X ports and a mini GBIC expansion port
- WebView remote monitoring and configuration via web browser
- 64 VLANs, 7 port trunking groups, console port, 802.1 QoS support

R1140

\$499

PLEASE NOTE:

All purchases subject to terms & conditions and returns policy. Delivery charges may apply. Not all items stocked in store but available for pick-up/delivery.



SpeedBooster technology is a compatible add-on to standard Wireless-G, which increases "real-world" wireless network performance by up to 35%. Unlike other speed-enhancing technologies, SpeedBooster is fully 802.11g compliant, and a "good neighbour" to other wireless devices and technologies, using a single 2.4GHz channel as specified by the official wireless standard. And, unlike other technologies, with SpeedBooster you'll see an overall speed improvement even when running a mixed network of SpeedBooster and regular Wireless-G devices.

WIRELESS-G BROADBAND ROUTER - WRT54GS



- Internet-sharing Router, 4-port Switch, and performance enhanced Wireless-G (802.11g) Access Point
- Shares a single Internet connection and other resources with Ethernet wired, Wireless-G, and SpeedBooster devices
- New SpeedBooster technology increases wireless network performance by up to 35%
- High security: Industry-leading Parental Control capability, 128-bit wireless encryption, powerful SPI

N9898

\$155

WIRELESS - G RANGE EXTENDER - WRE54G



- The easiest way to expand your wireless network's coverage
- Save on wiring costs - no wired connection to your network necessary
- Extend your wireless signal into hard-to-reach areas
- Compatible with both Wireless-G and Wireless-B networking clients

P9344

\$129

WIRELESS - G 802.11g 54Mbps PCI ADAPTER - WMP54GS



- High-speed Wireless-G for your desktop PC, now with SpeedBooster performance enhancement
- Put your PC wherever you want, with no cabling hassle
- New SpeedBooster technology increases wireless network performance by up to 35%
- Also interoperates with standard Wireless-G and Wireless-B networks

N7994

\$105

NETWORK STORAGE LINK FOR USB 2.0 DISK DRIVES - NSLU2



- Connects USB 1.1 or 2.0 disk drives and flash disks directly to your network
- Share music, video, or data files with managed access by user name or group
- Integrated file server - access your files from the Internet
- Built-in disk utilities - format, backup and scandisk

P8510

\$159

WIRELESS - G NOTEBOOK ADAPTER SPEEDBOOSTER CARDBUS - WPC54GS



- High-speed Wireless-G networking for your notebook computer, now with SpeedBooster performance enhancement
- New SpeedBooster technology increases Wireless-G performance by up to 35%
- Also interoperates with standard Wireless-G and Wireless-B networks
- Wireless communications secured with up to 128-bit encryption

N7993

\$155

WIRELESS-G INTERNET VIDEO CAMERA - WVC54G



- Sends a high-quality live audio/video stream to your network wirelessly over 802.11g - viewable from anywhere
- Built-in stand-alone web server, no PC necessary
- Security mode automatically send email alerts with video clips upon motion detection
- Supports up to four simultaneous remote users

R1359

\$425

SECURITY, FIREWALL AND VPN APPLIANCES

FIREBOX® X EDGE FAMILY



Firebox® X Edge, model-upgradeable VPN endpoints and SOHO firewall security appliances, deliver commercial-grade solutions that integrate perfectly with Firebox X to provide full, centralised management, logging, and historical reporting for securing telecommuter and remote offices. In addition, their intuitive user interfaces help small businesses with limited security expertise secure networks effortlessly.

FIREBOX EDGE	Firebox® X5	Firebox® X5w	Firebox® X15	Firebox® X15w	Firebox® X50	Firebox® X50w
	WG40005	WG400060	WG40015	WG40070	WG40050	WG40080
FIREWALL THROUGHPUT (Mbps)	80	80	95	95	100+	100+
VPN THROUGHPUT (Mbps)	35	35	35	35	35	35
CONCURRENT SESSIONS	6,000	6,000	8,000	8,000	10,000	10,000
BRANCH OFFICE VPN TUNNELS	2	2	15	15	25	25
MOBILE USER VPN TUNNELS	11	11	25	25	50	50
USER LIMIT	12	12	30	30	50+	50+
RENT*	\$8.28/wk	\$9.62/wk	\$10.07/wk	\$12.31/wk	\$17.59/wk	\$19.27/wk
PART NUMBER	P9512	R1522	P9522	R1523	P9532	R1524
PRICE	\$739	\$859	\$899	\$1,099	\$1,570	\$1,720

FIREBOX® X GATEWAY ANTI VIRUS FOR E-MAIL

WatchGuard® Gateway AntiVirus for E-mail service delivers robust e-mail protection integrated into your Firebox® X. This additional layer of antivirus security delivers signature-based protection against viruses, worms, trojans and blended threats, before they enter your network. The affordable yearly subscription is priced by model, regardless of how many users you need to protect.

FIREBOX X500 1-YEAR GATEWAY ANTIVIRUS FOR EMAIL SUBSCRIPTION

R1426 **\$465**

FIREBOX X700 1-YEAR GATEWAY ANTIVIRUS FOR EMAIL SUBSCRIPTION

Rent* \$8.46/wk
R1427 **\$755**

FIREBOX X1000 1-YEAR GATEWAY ANTIVIRUS FOR EMAIL SUBSCRIPTION

Rent* \$13.78/wk

R1438 **\$1,230**

FIREBOX X2500 1-YEAR GATEWAY ANTIVIRUS FOR EMAIL SUBSCRIPTION

Rent* \$30.66/wk

R1440 **\$2,989**



Firebox® X500

WG40500

Small businesses requiring an affordable, integrated security appliance with simple operation. Perfect for 20 - 100 users.

Rent* \$30.76/wk

M5787 **\$2,999**

Firebox® X700

WG40700

Small businesses requiring an affordable, integrated security appliance that grows with their needs. Designed for 50 - 200 users.

Rent* \$36.31/wk

M5788 **\$3,659**

Firebox® X1000

WG41000

Medium businesses requiring multi-layered security solutions with centralised management. Ideal for 200 - 500 users.

Rent* \$46.35/wk

M5789 **\$4,899**

Firebox® X2500

WG42500

Medium or distributed enterprises requiring the utmost protection and remote connectivity. For organisations with more than 500 users.

Rent* \$67.28/wk

M5791 **\$7,559**

*RENTSMART

The figures quoted are based on a per week basis over 3 years. Terms and conditions apply.

PLEASE NOTE:

All purchases subject to terms & conditions and returns policy. Delivery charges may apply. Not all items stocked in store but available for pick-up/delivery.

WIRELESS / BROADBAND SOLUTIONS

DIS-101 - BASE HOME NETWORK INSTALLATION PACKAGE (INITIAL INSTALLATION OF NETWORK)

- Base home network installation package for initial installation of network
- Connect up to 2 PCs (desktop and/or laptop)
- Connect 1 D-Link router
- Install 2 D-Link network adapters
- Connect D-Link router to existing broadband connection
- Share Internet connection between 2 computers
- Perform standard testing
- Coverage within 80kms of metro areas

R1400

\$169

DIS-102 - D-LINK INSTALLATION SERVICES - EXTRAS PACK

- Used in conjunction with DIS-101
- Ability to connect an:
 - additional PC (Desktop and/or Laptop)
 - additional printer
 - multi-function device
 - D-Link Wireless Access Point or Router
 - D-Link Internet Video Camera or Broadband Video Phone
 - Game Console
- Coverage within 80kms of metro areas

R1401

\$49

PLEASE NOTE:

All purchases subject to terms & conditions and returns policy. Delivery charges may apply. Not all items stocked in store but available for pick-up/delivery.

11/54/108Mbps WIRELESS LAN ACCESS POINT WITH SIMULTANEOUS BRIDGING



DWL-2100AP

The DWL-2100AP features WDS (Wireless Distribution System) that can be configured to perform in any one of five modes: a Wireless Access Point, a Point-to-Point (PtP) bridge with another DWL-2100AP, a Point-to-Multipoint (PtMP) bridge, a Repeater for range extension, or as a Wireless Client.

N6053

\$199

11/54/108Mbps WIRELESS LAN PCI ADAPTER



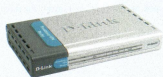
DWL-G520

The DWL-G520 wireless PCI card is an enhanced 802.11g high-performance, wireless card for desktop computers. This card supports high-speed wireless networking of up to 108Mbps, while providing seamless interoperability with all existing 802.11b and 802.11b+ wireless equipment.

H9622

\$109

ETHERNETWORK 4 PORT BROADBAND VPN ROUTER



DI-804HV

The DI-804HV is a 4-port Ethernet Broadband Router with VPN (Virtual Private Network) capabilities. Which allows users to securely connect multiple computers over the Internet. It also features 10/100Mbps Auto MDIX Ethernet ports allowing CAT 5 cable (straight-through or crossover) to work with the DI-804HV.

L5646

\$209

802.11G - 108Mbps WIRELESS PCMCIA ADAPTER



DWL-G650

The DWL-G650 is a 32-bit Wireless Cardbus Adapter capable of transfer data with a maximum wireless signal rate of up to 108Mbps, giving you the ability to connect to a wireless network at home, at the office or at wireless hotspots. It is Wi-Fi compatible, meaning that it can connect and interoperate with other 802.11b wireless routers, access points and adapters.

H9621

\$109

11/54/108Mbps WIRELESS ROUTER



DI-624

Connects up to 20 computers without wires and up to 4 computers with wires to share the Internet, swap files and share a printer on a wireless network. It features: Advanced firewall & parental control, easy installation, 802.11g, 802.11b compatible, increased security with 802.1x and WPA

J4539

\$169

WIRELESS ADSL ROUTER WITH 4 X 10/100 PORTS



DSL-G604T

The DSL-G604T is a Wireless ADSL router modem with speeds of up to 150x faster than dial-up, while using a standard phone line. Wi-Fi enabled computers and devices can wirelessly connect to the DSL-G604T and share a single incoming Internet connection.

P3062

\$209

ACCESS POINTS & BRIDGES COME WITH A 3 YEAR WARRANTY

dlink.ht.com.au

CORPORATE NETWORKING SOLUTIONS

24 PORT 10/100 STACKABLE SWITCH



DES-3526

D-Link's DES-3526 Single IP Management technology is equipped with 24 10/100BASE-TX ports & 2 combo 1000BASE-T/SFP gigabit in a low-profile rackmount box. Designed for secure and flexible connection.

Rent* \$10.92/wk

N9097

\$975

48 PORT COPPER GIGABIT SMART SWITCH



DES-1226G

The Web-Smart DES-1226G is equipped with 24 10/100BASE-TX Fast Ethernet ports and 2 combo 10/100/1000BASE-T/SFP (mini-GBIC) ports for flexible copper/fiber Gigabit connection. It is an effective solution for the small and medium businesses workgroup requirements. It also provides Smart features that are ideal for simple QoS applications, and provide basic monitoring tools.

N9093

\$534

NETWORK SECURITY APPLIANCE



DFL-700

The DFL-700 is a powerful security solution that provides integrated Network Address Translation (NAT), hardware based SPI Firewall, advanced content filtering features, IDS protection, bandwidth management, as well as Virtual Private Network (VPN) support.

Rent* \$10.07/wk

Q9608

\$899

48 PORT 10/100 STACKABLE SWITCH



DES-3550

D-Link's DES-3550 Single IP Management technology is equipped with 48 10/100BASE-TX ports and 2 combo 1000BASE-T/SFP Gigabit in a low-profile rackmount box. Designed for secure and flexible connection.

Rent* \$17.09/wk

N9094

\$1,525

WEB SMART 48-PORT 10/100 + 2 GIG SWITCH



DES-1250G

The Web Smart DES-1250G is equipped with 48 10/100BASE-TX Fast Ethernet ports and 2 combo 10/100/1000BASE-T/SFP (mini-GBIC) ports for flexible copper/fiber Gigabit connection. It is an effective solution for the small and medium size business connections. And is also furnished with Smart features that are ideal for simple QoS applications, and basic network monitoring.

Rent* \$10.07/wk

R3532

\$899

NETWORK SECURITY FOR ENTERPRISE NETWORKS



DFL-1100

The DFL-1100 hardware Firewall network security appliance is an easy-to-deploy VPN and firewall solution designed for enterprise and small to medium businesses that demand superior performance and security. This appliance provides integrated Network Address Translation (NAT), SPI Firewall, advanced content filtering features, IDS protection, bandwidth management, as well as Virtual Private Network (VPN) support.

Rent* \$33.73/wk

Q9607

\$3,399

GIGABIT INTERFACE CONVERTER

DEM-310GT

A high performance 1310nm multimode/Singlemode SFP (mini-GBIC) transceiver. Supporting full duplex, Gigabit speeds on multimode/Singlemode fiber for distances of up to 550m/550m/10km on 62.5µm/50µm/9µm respectively. The unit features a metal housing to reduce EMI and to increase durability. The DEM-310GT is hot pluggable and is backed by a standard 3-year product warranty.

Rent* \$7.61/wk

H9626

\$679

DEM-312GT2

A high performance 1310nm multimode SFP(miniGBIC) transceiver. Supporting full duplex, Gigabit speeds on multimode fiber for distances of up to 2km on 62.5µm or 50µm fiber. The unit features a metal housing to reduce EMI and to increase durability. The DEM-312GT2 is hot pluggable and is backed by a manufacturer standard 3-year product warranty.

R1525

\$425

DEM-311GT

A high performance 850nm multimode SFP/mini-GBIC transceiver. Supporting full duplex, Gigabit speeds on multimode fiber for distances of up to 220m/550m on 62.5µm/50µm fiber respectively. The unit features a metal housing to reduce EMI and to increase durability. The DEM-311GT is hot pluggable and is backed by a manufacturer standard 3-year product warranty.

H9627

\$409

*RENTSMART

The figures quoted are based on a per week basis over 3 years. Terms and conditions apply.

PLEASE NOTE:

All purchases subject to terms & conditions and returns policy. Delivery charges may apply. Not all items stocked in store but available for pick-up/delivery.



SMART WIRELESS NETWORKING

DOUBLE 108Mbps WIRELESS ROUTER



WGU624

The Netgear WGU624 Double 108Mbps Wireless Router operates in either of two 108Mbps modes, similar to having 2 networks in one product. The first 108Mbps mode is compliant with standard 802.11g, while the second is an 802.11a network free from interference by other wireless traffic such as microwave ovens and cordless phones, and thus ideal for applications such as video streaming.

Q3903

\$229

DOUBLE 108Mbps WIRELESS PCMCIA CARD



WGS11U

The Netgear WGS11U Double 108Mbps Wireless PC Card, when used with the WGU624 Double 108Mbps Wireless Firewall Router, allows a notebook PC user to choose between two 108Mbps modes. The first 108Mbps mode is compliant with standard 802.11g, while the second is a private network free from interference by other wireless traffic, and thus ideal for applications such as video streaming.

Q6852

\$120

Check out www.netgear.com.au/warranty for full warranty options

PLEASE NOTE:

All purchases subject to terms & conditions and returns policy. Delivery charges may apply. Not all items stocked in store but available for pick-up/delivery.

DSL MODEM ROUTER 4 PORT 10/100 SWITCH



DG834

- Integrated ADSL Modem is future proof with support for ADSL2+, router switch and firewall
- Protection from Denial of Service attacks and SPI firewall
- Easy to use with Smart Wizard Install Assistant and a multilingual user interface

L2610

\$159

108Mbps WIRELESS USB 2.0 ADAPTER



WGT624

- Fast 108Mbps speeds for your desktop or notebook PC
- Up to 10x faster than 802.11b and up to 4x the range of 802.11b wireless
- USB 2.0 powered - up to 40x faster than USB 1.1
- Quick and easy setup with Smart Wizard install assistant
- Included 5 ft. USB cable allows adapter to be positioned for optimal signal strength
- 54Mbps also available

Q9015

\$129

CABLE/DSL PROSAFE WIRELESS ROUTER



FWS338

- Integrated 54Mbps 802.11g wireless access point
- Advanced security with Stateful Packet Inspection (SPI) firewall, IPSec, PPTP, L2TP VPN pass-through support, WPA and WEP security for wireless
- 2 x VPN tunnels
- DB-9 port included to support an ISDN or analog modem connection
- Built-in USB print server

L2431

\$329

DSL MODEM/FIREWALL/ROUTER/54Mbps ACCESS POINT/SWITCH



DG834G

- All in One Gateway combines ADSL2+ modem, router, firewall, Super G access point and 4 port switch
- 108Mbps Wireless Speed with Super G Technology (when used with Netgear 108Mbps adapters)
- Easy to set-up, Smart Wizard gets you up and running in less than 5 clicks
- Over 10 security & privacy features including a double firewall (NAT + SPI)

Q5517

\$299

108Mbps CABLE/DSL WIRELESS ROUTER



WGT624

- 108Mbps wireless speed (when used with Netgear 108Mbps Adapters)
- Easy to set-up, Smart Wizard gets you up and running in less than 5 clicks
- Over 10 security & privacy features including a double firewall (NAT + SPI) and WPA
- One 10/100Mbps Internet port and 4 port Ethernet 10/100Mbps Switch
- Multi-VPN pass-through support (2, IPSec, and multiple L2TP & PPTP)
- 54Mbps also available

L6032

\$159

PROSAFE VPN FIREWALL 50 ROUTER



FVS338

- Initiates up to 50 Hardware-Based VPN tunnels
- Advanced security using Stateful Packet Inspection (SPI) firewall Denial of Service (DoS) Protection and Intrusion Detection
- Supports Netgear's ProSafe Network Management Software NMS100 or any SNMP-based management software
- Optimised for use with Netgear ProSafe VPN Client Software VPN01L or VPN05L

R0166

\$459



NETGEAR™

harristechnology



Networking

AFFORDABLE, SIMPLE POWER OVER ETHERNET FROM NETGEAR

8 PORT 10/100 DESKTOP SWITCH W/4 PORT POE



FS108P - AFFORDABLE, EASY TO USE POWER OVER ETHERNET SWITCH FOR SMALL OFFICES

Netgear's 8 port Power over Ethernet (PoE) switch delivers industry-standard 802.3af power on up to 4 ports, while maintaining connectivity to standard 10/100 devices on the rest. Now small office environments can quickly install PoE compliant devices such as wireless access points and IP surveillance cameras where AC power is difficult to access. Power is delivered over the Cat-5 cable, eliminating the need for electricians to install outlets high on walls or ceiling - typically the optimal location for these devices. The switch is easy to install and use, with power automatically supplied as needed. The FS108P delivers affordable PoE in a quiet, durable desktop package.

Supply power to wireless access points and surveillance cameras over Cat-5 cabling
IEEE 802.3af power on up to 4 ports
8 10/100Mbps Ports with AutoUplink™

Small, compact, quiet design fits on desktop or wall
Zero configuration required - power is automatically supplied to compliant devices

Q9509

\$279

8 PORT GIGABIT PROSAFE SMART SWITCH



S748T

48 non-blocking 10/100/1000Mbps ports in 1U form-factor

Fiber options enable long distance connections between switches

Smart Management features for trunking, VLANs, and traffic prioritisation

Rent* \$23.32/wk

Q9557

\$2,255

PROSAFE 24 PORT 10/100 SMART SWITCH WITH 2 GIGABIT PORTS



FS726T

- Management features for trunking VLANs and traffic prioritisation
- 24 10/100Mbps ports and One SFP GBIC slot
- Two gigabit ports
- 17" rack-mountable case

Rent* \$6.22/wk

R0482

\$555

4 PORT LAYER 2 MANAGED GIGABIT SWITCH



GSM7224

24 Auto-sensing 10/100/1000Mbps ports

Complete Layer 2 management suite

Non-blocking performance

Flexibility of fiber connections with combo ports

Rent* \$20.50/wk

Q2108

\$1,829

24 PORT LAYER 3 MANAGED GIGABIT SWITCH



GSM7324

- 24 port of Gigabit Ethernet
- 4 SFP slots for optional fiber gigabit connections (shares with RJ-45 port)
- Complete Layer 3 software - OSPF, RIP I/RIP II, Static, VLAN routing

Rent* \$54.43/wk

J6587

\$5,899

PROSAFE 802.11G WIRELESS ACCESS POINT



WG302

- High-speed networking with IEEE 802.11g, up to 108Mbps in turbo mode
- Powerful RF management and control with AutoCell technology
- Wi-Fi Protected Access (WPA), 802.11i-ready security
- Wireless Distribution System (WDS) support bridging and repeater modes
- Integrated IEEE 802.3af Power over Ethernet (PoE)
- 2 detachable 5 dBi antennas

L8310

\$449

PROSAFE™ 802.11G WIRELESS ACCESS POINT



WG102

- IEEE 802.3af Power over Ethernet support for easy installation
- 802.11i-ready, advanced security and management features with Wi-Fi Protected Access and 802.1x RADIUS
- SNMP-Manageable
- High-speed networking with IEEE 802.11g, up to 108Mbps in turbo mode
- Wireless Distribution System (WDS) support bridging and repeater modes
- 1 detachable 5 dBi antenna
- 802.1x, VPN Pass-through, MAC address authentication

Q0634

\$239

*RENTSMART

The figures quoted are based on a per week basis over 3 years. Terms and conditions apply.

PLEASE NOTE:

All purchases subject to terms & conditions and returns policy. Delivery charges may apply. Not all items stocked in store but available for pick-up/delivery.

BROADBAND SOLUTIONS FROM NETCOMM

PERSONAL VPN ROUTER
VPN100

Secure communications for the mobile user in a lightweight, pocket-sized and easy to use device. The VPN100 is a VPN hardware solution that provides secure access to network resources remotely from a hotel or another office via the internet. It will also protect your notebook from untrusted networks exposure. Advanced security features such as an active Stateful Packet Inspection firewall and DES/3DES ensures the most effective data security and data integrity.

N2957 **\$129**
11G WIRELESS ADAPTOR USB2
NP544



Connect any USB-enabled laptop or PC to any 11g-54Mbps or 11b-11Mbps Wireless LAN network. The NP544's new compact antenna delivers the superior range which allows you to move freely around your office, home or hotspot. Dynamic Data Rate scaling automatically adjusts wireless transfer speed to suit network conditions while security is assured with the latest WPA and WEP security standards. Plug the NP544 into any USB port on your PC or Laptop, run the setup wizard and connect wirelessly with a minimum of fuss.

P7945 **\$69**

*RENTSMART

The figures quoted are based on a per week basis over 3 years. Terms and conditions apply.

PLEASE NOTE:

All purchases subject to terms & conditions and returns policy. Delivery charges may apply. Not all items stocked in store but available for pick-up/delivery.

SUPER-G WIRELESS GATEWAY
NB620WBROADBAND WIRELESS ROUTER FOR CABLE OR
ADSL MODEMS FEATURING TRIPLE SECURITY -
NAT, SPI/DOS AND WPA

Whether at home or in a small office, the NB620w lets you manage various digital devices such as printers, web cams and storage devices directly over a wired or wireless network. It features two USB 2.0 ports for print and file serving and supports 11Mbps, 54Mbps and 802.11 'Super-G' (IEEE enhanced) wireless. The NB620w is compatible with any operating system including Windows, Apple Macintosh and Linux. Additional features include web content filtering, UPnP, virtual server/port forwarding and VPN Passthrough. Video tutorials are also provided to ensure easy configuration and setup.

Q4600 **\$289**

ADSL INTEGRATED GATEWAY
NB5580

The NB5580 delivers the superior enterprise class performances at a cost effective price. The robust unit is a simple to install and configure all in one ADSL sharing solution. It features an integrated ADSL modem, Router, 4 port 10/100 Ethernet Switch, Advanced Stateful Packet Inspection Firewall and Multiple VPN End Point tunnels, making direct communication between wired services efficient and secure.

L8436 **\$199**

ADSL/ADSL2 ETHERNET MODEM
ROUTER + BONUS* MINI WEB CAM
BP5CAMTHE NB5 IS THE NEXT GENERATION ADSL
MODEM/ROUTER WITH SUPPORT FOR ADSL2
AND ADSL2+

The NB5 features an active firewall and is equipped with VPN pass-through for standard VPN client for point to point communications. Other features include QoS (Quality of Service), port forwarding and UPnP. Best of all, when your ADSL service is upgraded to ADSL-2, you can upgrade your NB5 with a simple download from NetComm.

*MINI WEB CAM INCLUDED

USB interface, 30 frame per second, high quality video and still image capture Mini Web Cam.

Q5986 **\$149**

WEB MANAGED SWITCH
NP3016 - 16 PORT

NetComm's 16 port Web Smart Gigabit Switch provide a simple solution for network engineers to build or upgrade their network infrastructure to Gigabit Ethernet. Besides the benefit of Gigabit, this device provides a host of Web based management features such as, VLAN, Trunking, Port-Mirroring, Port-Based QoS and a host of reporting tools. Easily managed via the user-friendly web browser interface, all 16 ports support 10/100/1000Mbps network speeds, Full & half duplex modes and are also plug-and-play. Also available in 24 ports.

P2350 **\$899**

Rent* \$10.07/wk

BELKIN®

harristechnology



Accessories

BELKIN ACCESSORIES

USB 2.0 HI SPEED DRIVE ENCLOSURE



With its bandwidth 40 times greater than USB 1.1, Hi-Speed USB 2.0 provides the ideal storage capacity and ultra fast speeds. Simply insert a hard drive or DVD burner or CD burner and create a portable media device. Ideal for loading large files and transferring between desktop or laptop computers.

R1646

\$110

USB 2.0 7 PORT HUB



This latest innovation from Belkin lets you connect up to seven devices quickly and easily. The Hi-Speed USB 2.0 7 Port Hub features two, top-loading downstream USB ports. Ideal for Bluetooth adapters, Flash Drives and RF receivers.

M3000

\$79

WIRELESS KEYBOARD & OPTICAL MOUSE BUNDLE

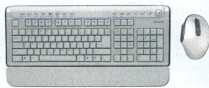


Take advantage of the latest advances in computing with wireless freedom and optical precision—all in one package. The Belkin wireless keyboard and optical mouse bundle uses digital radio technology to give you the luxury of using your keyboard and mouse in comfort anywhere within six feet of the receiver.

K8276

\$59

WIRELESS KEYBOARD AND OPTICAL ERGO MOUSE BUNDLE



Navigate the web at optimum speed with wireless convenience. This wireless keyboard and optical mouse bundle offers advanced input technology combined with multimedia functionality. With this finely constructed, easy to use wireless duo, you'll enjoy customisable instant access hot keys and a programmable mouse for easy scrolling and shortcuts.

N0658

\$85

ERGOBOARD PRO KEYBOARD WITH 2 USB PORTS



The ErgoBoard Pro provides the latest USB technology integrated into an ergonomically designed keyboard with built-in USB connectors to maximise desktop space and ensure simplicity of use.

K8199 BLACK

\$39

WIRELESS OPTICAL 5 BUTTON ERGONOMIC MOUSE



The ErgoFit Wireless Optical Mouse from Belkin brings the joy of wireless freedom to your fingertips. An exceptional fit for right-handed users, the ErgoFit gives you amazing comfort and flexibility.

K8274

\$59

USB 2.0 4 PORT HUB



The Hi-Speed USB 2.0 4 Port Hub allows you to connect up to 4 ultrafast devices such as next-generation scanners, printers and video cameras. Small and stackable, it is the ideal accessory for your desk. Travel lighter and transfer quicker with the Hi-Speed USB 2.0 Pocket Hub from Belkin.

This USB innovation from Belkin lets you connect up to four peripherals quickly and easily. The Hi-Speed USB 2.0 4 Port Hub provides four downstream USB ports that offer Plug-and-Play connectivity to your USB 1.1 (low- and full-speed) and USB 2.0 (high-speed) devices. This includes such peripherals as scanners, printers, mass-storage drives, and high-resolution cameras.

ADVANTAGES :

- Offers stackable, reversible design
- Features four 480Mbps ports and transfers your data at up to 480Mbps
- Prevents damage to your computer and devices with over-current protection
- Connect up to 2 high-speed devices without a power supply
- Installs easily with Plug-and-Play convenience, supports "hot swapping" of all your USB devices
- Lets you monitor port and power status with LEDs

M3731

\$49

PLEASE NOTE:

All purchases subject to terms & conditions and returns policy. Delivery charges may apply. Not all items stocked in store but available for pick-up/delivery.



USB - STORAGE & CONNECTIVITY

USB 2.0 QUICKLINK
5-IN-1 CABLE

USB2-QL-02

QuickLink Connectors for all you USB devices. Complete with 2 metre cable & easy carry pouch. Five Different USB Cable Configurations

- A Male to B Male
- A Male to A Female
- A Male to Mini B Male
- Mini A Male to B Male
- Mini A Male to Mini B Male

P9191

\$29

CARDBUS ADAPTERS



- Instantly add High-Speed USB 2.0 ports or IEEE1394 FireWire ports to your notebook.
- Quick & easy installation - ideal for any mobile executive.
- Hot-pluggable with full Plug-and-Play support.
- Supports 32 bit Cardbus PC Card type II slots.

N2270 2 Port USB 2.0 \$55

N2272 3 Port FireWire \$55

P2062 4 Port Combo \$99

PLEASE NOTE:

All purchases subject to terms & conditions and returns policy. Delivery charges may apply. Not all items stocked in store but available for pick-up/delivery.

COMSOL USB 2.0 FLASH
DRIVES

Front view

Back view

- Password protection for sensitive data
- FlashMail function for portable email
- PCLock function prevents unauthorised access to your computer
- SecretZip function compresses and encrypts data for increased capacity and added security

Q5459	128MB	\$39
Q5460	256MB	\$69
Q5461	512MB	\$99
Q5462	1GB	\$179

USB 2.0 ACTIVE REPEATER
CABLE - 5M

UE-102-5

Extend the distance of your USB peripherals beyond the maximum USB specification of 5 metres.



USB BLUETOOTH ADAPTER



UBT-122

Quickly and easily add Bluetooth capability to your desktop or notebook computer.

USB TO RS232 9 PIN SERIAL
CONVERTER CABLE

UMC-100

Connect serial devices to a USB port on a computer. Supports serial devices such as modems, digital cameras & PDAs.

N2303 \$49

Q7429 \$75

80782 \$55

USB 2.0 DATA TRANSFER
CABLE

UDT-102

USB 2.0 Data Transfer Cable.

USB 2.0 HDD 2.5" IDE ENCLOSURE



UHD-2502

USB 2.0 2.5" IDE enclosure.

4 PORT USB 2.0 POCKET HUB



UPH-402

USB 2.0 high-speed pocket hub.

K1030 \$59

N0959 \$69

N2301 \$55

IEEE1394 FIREWIRE PCI CARD



1394-PCI

3 port IEEE1394 FireWire PCI card.

D8946 \$45

USB 2.0 PCI HOST ADAPTER



UPCI-502

5 port USB 2.0 PCI controller card.

N2275 \$39

USB TO PS/2 ADAPTER



UKMC-100 USB to PS/2 keyboard & mouse adapter.

P8071 \$34

INTELLIGENT KVM SOLUTIONS

SERVERLINK IP

ADD REMOTE IP ACCESS TO YOUR CURRENT KVM SWITCH



Access your servers from anywhere in the world! The ServerLink IP allows network administrators to manage, configure, troubleshoot and even reboot remote servers from any web browser. Businesses can now increase productivity by minimising downtime and reducing travel costs and expensive service calls.

Security for your sensitive data is assured using 128 bit Secure Sockets Layer (SSL) encryption with an MD5 and SHA encrypted login screen. The ServerLink IP allows you to connect directly to servers at the BIOS level and is compatible with most existing KVM switches.

So if you have an existing KVM switch and are looking for secure, affordable remote access, then order your ServerLink IP today. You can also take advantage of our IP bundles, where you will save money when you purchase the ServerLink IP together with a ServerLink Elite KVM Switch or ServerLink Rack Drawer.

Rent* \$14.54/wk

Q5544

\$1,298

SERVERLINK ELITE KVM SWITCHES

2 & 16 PORT 1U HIGH DENSITY SWITCHES



Using high-density connections, these switches use only 1U of rack space making them the ideal choice for any server room where space is at a premium.

On-screen display for simple management
Supports video resolution up to 2048 x 1536

NB: ELITE KVM CABLES SOLD SEPARATELY

N6589 8 PORT ELITE KVM **\$549**

Rent* \$7.83/wk

N8989 16 PORT ELITE KVM **\$699**

SERVERLINK RACK DRAWERS



15" TFT FLAT PANEL

With a 15" TFT LCD screen, keyboard, touchpad and integrated KVM switch, these LCM KCM switches save you up to 1/3 of valuable rack space.

Rent* \$24.81/wk

H2100 SINGLE PORT PS2/VA **\$2,399**

Rent* \$27.91/wk

H2101 8 PORT KVM - PS2/VA **\$2,699**

Rent* \$32.81/wk

H2103 16 PORT KVM - PS2/VA **\$3,199**

SERVERLINK STAR KVM SWITCHES WITH BUILT-IN CABLES



AUDIO & MIC SWITCHING

Control two PCs with a single keyboard, monitor and mouse. All ServerLink Star KVM switches have audio and microphone support for multimedia applications.

2 PORT PS/2 KVM

Q5539

\$79

2 PORT USB KVM

Q5540

\$89

2 PORT PS/2+USB KVM

Q5541

\$85

SERVERLINK SLIM KVM SWITCHES



CABLES INCLUDED

Save desktop space from over-cluttering with the ServerLink Slim KVM. High Density 3-in-1 cables allow you to have a single connection at the KVM.

2 PORT KVM WITH CABLES

Q5542

\$119

4 PORT KVM WITH CABLES

Q5543

\$199

*RENTSMART

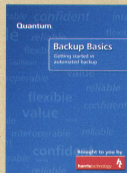
The figures quoted are based on a per week basis over 3 years. Terms and conditions apply.

PLEASE NOTE:

All purchases subject to terms & conditions and returns policy. Delivery charges may apply. Not all items stocked in store but available for pick-up/delivery.

QUANTUM PROTECTS YOUR DATA & YOUR BUDGET!

CALL HARRIS TECHNOLOGY ON 1300 19999 FOR ASSISTANCE WITH DETERMINING THE BEST SOLUTION FOR YOUR DATA NEEDS.



COPY OF "BACKUP BASICS" AVAILABLE FOR DOWNLOAD ONLY AT QUANTUM.HT.COM.AU

QUANTUM TAPE MEDIA

DLT TAPE IV

CompactTape IV (20/40,35/70&40/80GB) DLT Tape

71231 **\$69**

QUANTUM SDLT1

SDLT1 Tape (110/220GB&160/320GB)

B9825 **\$99**

QUANTUM SDLT2

Media for the SDLT600

N4918 **\$179**

QUANTUM WARRANTY

Available for all models. 3-year rapid exchange warranty with telephone & online support. On-site installation and on-site service optional.

*RENTSMART

The figures quoted are based on a per week basis over 3 years. Terms and conditions apply.

PLEASE NOTE:

All purchases subject to terms & conditions and returns policy. Delivery charges may apply. Not all items stocked in store but available for pick-up/delivery.

Data is the most valuable asset your business owns. Without it, people sit idle, your network is inoperable, and your business goes dark. Every minute and every megabyte has a cost. Are you fully protected? Quantum protects the world's mission-critical data with simple, scalable storage solutions from the desktop to the data centre.

**BACKUP
BASICS**
**ULTRIUM
LTO**
**DLT
TAPE**

TAPE DRIVES

From entry-level to enterprise, Quantum tape drives are inexpensive devices to protect your data

**QUANTUM LTO-3
INTERNAL TAPE DRIVE, ULTRA SCSI LVD, BLACK**


NEW!

Delivering up to 800 GB capacity on a single cartridge and backup speeds of up to 490 GB/hr, CL 800 is backward compatible to LTO-1

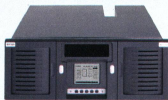
Rent* \$83.84/wk

R2191 **\$9,999**

TAPE LIBRARY

For maximum capacity and performance, Quantum M-Series tape libraries can back up over 60TB of mission -critical data

M1500 - QUANTUM M1500SX TAPE LIBRARY



Native capacity for SDLT 600 of 6.3TB at 36MB/s native transfer rate. Base-library configurable from zero to two drives and up to 25 cartridge slots. Supports SDLT 320, SDLT 600, and LTO-1™, and LTO-2™ tape drives. Driveless configuration available for "capacity-only" scalability. Stack ten, manage as one.

Rent* \$158.48/wk

M3880 **\$19,699**



**QUANTUM DISK-TO-DISK-TO-TAPE BACKUP
160GB 1U RACKMOUNT DEVICE WITH
INTEGRATED QUANTUM DAT72 TAPE DRIVE**


NEW!

Quantum disk-to-disk-to-tape (D2D2T) solutions are ideal for users who prefer the DAT/DDS format yet require faster backup, faster restore and the ability to store many days' backup sets online.

Rent* \$39.43/wk

R2911 **\$3,999**

TAPE AUTOLOADER

Quantum autoloaders hold up to 16 tapes and automate tape rotations saving manual time and increasing backup reliability.

QUANTUM VALUELOADER WITH LTO-2



In comparison to stand-alone tape drives, the ValueLoader(tm) offers increased capacity and random access to several cartridges without human intervention - the number one cause of data loss.

Rent* \$93.99/wk

P7197 **\$11,595**

QUANTUM MEDIA

Quantum now offers a full line of media from DLTape media, to LTO Ultrium, DAT and DDS data cartridges depending on your specific media requirements.

Call Harris Technology's storage specialists on 1300 13 9999 for the full range of Quantum data protection solutions.



harristechnology



Back-Up

POWER BACK-UP EQUALS POWER PROTECTION

COMPUTER AND HOME THEATRE SURGEARREST PRODUCTS

Lightening and power surges can permanently ruin your electronic equipment. The APC SurgeArrest product range will protect your equipment from the threat of power surges and disruptions. The SurgeArrest range provides maximum protection for your home/office environment including computers, printers, modems and home theatre systems.

BUY 3
AND RECEIVE
A BONUS*
SURGEARREST.



ESSENTIAL SURGEARREST

Essential surge protection for computers and home electronics from lightning spikes and surges. Featuring 5 outlets, safety shutters, cord management and lifetime equipment protection policy up to \$75,000 with Data Recovery Warranty. Also available with Telephone/Fax/Modem, Cable Modem and Video Protection.

Bonus surgearrest must be of the same type purchased. Offer ends 31.03.2005

R1893

P5-AZ

\$39

BUY 3
AND RECEIVE
A BONUS*
SURGEARREST.



HOME/OFFICE SURGEARREST

Reliable surge protection for home or office computers and electronic equipment from lightning spikes and surges. Featuring 6 outlets including Telephone/Fax/Modem protection with 2-way Splitter, safety shutters, cord management and lifetime equipment protection policy up to \$125,000 with Data Recovery Warranty. Also available with Cable Modem and Video Protection.

Bonus surgearrest must be of the same type purchased. Offer ends 31.03.2005

R1889

PH6T3-AZ

\$65

BUY 3
AND RECEIVE
A BONUS*
SURGEARREST.



PERFORMANCE SURGEARREST

Complete Surge Protection for High Performance Computers and Electronics from lightning spikes and surges. Featuring 8 outlets including Cable Modem and Video Protection, Network Protection, Telephone/Fax/Modem protection with 2-way Splitter, safety shutters and cord management. Includes two 1.8 Meter Tel Cable, 60 cm Coaxial Cable, 6ft Network Cable, and lifetime equipment protection policy up to \$175,000 with Data Recovery Warranty.

Bonus surgearrest must be of the same type purchased. Offer ends 31.03.2005

R1884

PF8VNT3-AZ

\$89

SMART-UPS XL MODULAR 1500VA AND 3000VA 230V RACKMOUNT/TOWER PREMIUM UPS



Rear view

Smart-UPS XL Modular 1500VA and 3000VA 230V

Rackmount/Tower Premium rack or tower extended run power protection for applications requiring the higher availability of modular hot-swap components and network manageability.

APC SMART-UPS XL MODULAR 1500VA 230V RACKMOUNT/TOWER UPS

Rent* \$29.22/wk

R1526

\$2,849

APC SMART-UPS XL MODULAR 3000VA 230V RACKMOUNT/TOWER UPS

Rent* \$39.43/wk

R1527

\$3,999

APC BACK-UPS CS FOR WORKSTATIONS



Rear view

Best Value Battery Backup & Protection for Home and Business Computers

- Battery powered & surge protected power outlets
- Built-in phone/fax/modem line (DSL compatible) protection
- Safe system shutdown software
- Sophisticated power management features
- Easy access hot-swappable, user-replaceable battery

APC BACK-UPS CS 350VA/210W 230V

C5446

\$159

APC BACK-UPS CS 650VA/400W 230V

Q7196

\$235

APC SMART-UPS 1000VA USB WITH POWERCHUTE PLUS



computer & data



Smart battery backup & high performance surge suppression

Including additional outlet for protection of printers, audible alarms, phone/modem protection and user replaceable hot swappable batteries. PowerChute® Plus software.

Rent* \$14.51/wk

D9337

\$1,295

*RENTSMART

The figures quoted are based on a per week basis over 3 years. Terms and conditions apply.

PLEASE NOTE:

All purchases subject to terms & conditions and returns policy. Delivery charges may apply. Not all items stocked in store but available for pick-up/delivery.

DUAL LAYER DVD WRITERS

FEATURES:

PRECISION RECORDING TECHNOLOGY

Pioneer's exclusive performance enhancing features ensure high quality recording characteristics and low operational noise.

ULTRA DYNAMIC RESONANCE ABSORBER

Absorbs vibration caused by imbalanced media. Stabilises media for higher quality writing and quieter read performance even at high speed.

LIQUID CRYSTAL TILT / THICKNESS COMPENSATOR

Provides accurate, reliable read/write performance with a variety of disc characteristics. The Liquid Crystal Compensator is an ideal solution for irregularly curved, thin/ thick and double layer discs.

PERFORMANCE ADJUSTING FIRMWARE

Automatically adjusts between Performance mode and Quiet mode. Achieves an ideal solution by lowering disc rotation for quieter drive performance during DVD Video and Audio CD playback, while speeding up for high performance when required.

NOTE: Software supplied is not MAC compatible.

INTERNAL DUAL DVD/CD WRITERS
MODEL DVRA09XL

The Pioneer DVR-A09XL is the industry's first DVD writer to support dual layer recording at 6X. This enables the recording of a full 8.5GB dual layer disc in around 20 minutes.

FEATURES:

Industry leading recording speeds of 16X for Single Layer and 6X for Dual Layer combined with Pioneer's proven reliability and support.

INCLUDED SOFTWARE:

Comprehensive quality Ulead package featuring DVD MovieFactory 3.5 Suite Deluxe, DVD Workshop 2 SE, VideoStudio 8 SE DVD (all including Dolby AC-3 audio encoding) and DVD PictureShow 3 SE.

WRITE SPEEDS

- 16x DVD±R
- 6x DVD Dual Layer
- 40x CD-R
- 24x CD-RW

ULEAD
CREATIVE INTELLIGENCE



PLEASE NOTE:

All purchases subject to terms & conditions and returns policy. Delivery charges may apply. Not all items stocked in store but available for pick-up/delivery.

R0657

BEIGE

\$169

R0658

BLACK

\$169



harristechnology



Storage

MAXTOR ONETOUCH II™ - SMART STORAGE WITH PUSH-BUTTON BACKUP**ONETOUCH II™ SERIES**

The Maxtor OneTouch™ drive - just press the button and your files are backed up in one simple step. It's simply the faster backup. Faster than CD. Faster than a floppy. Faster than removable cartridge systems. Space for your photos, videos, graphics, music, documents and more. It connects to FireWire or USB ports on a PC or MAC. It backs up with the Maxtor OneTouch™ button or runs automated backups using the included software, Dantz® Retrospect® Express. And you can customise the button to launch any application. Powerful, yet simple backup. Fast, flexible, huge capacity.

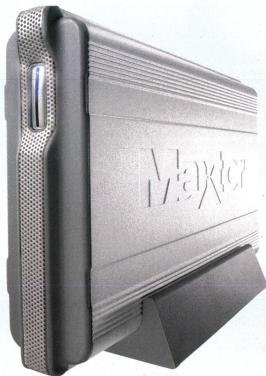
FEATURES

- Patent-pending Maxtor OneTouch™ technology
- Plug and play storage
- Hot-swappable
- Anodised aluminum design
- Stands vertically or horizontally
- Dantz® Retrospect® Express backup software included
- Customisable Maxtor OneTouch™ button
- Power management and on/off switch
- Whisper-quiet FDB motor
- MAC formatted (for MAC models)
- Oxford 911 chip (Firewire models)
- Connect additional drives
- Kensington security lock compatible

ALL NEW FEATURES

MAXTOR ONE TOUCH SERIES II UTILISES ALL THE FEATURES OF THE ORIGINAL MAXTOR ONE TOUCH SERIES AND COMBINES THEM WITH THESE GREAT NEW FEATURES:

- Default installation backs up every local drive automatically
- Saves historical backup versions
- Full system restore to an earlier version
- Simple diagnostics check the health of your drive with a single click
- Tuneable drive performance

**QUICK AND EASY INSTALLATION**

- 1 INSTALL THE SOFTWARE
- 2 PLUG IN THE DRIVE
- 3 PUSH THE BUTTON AND FOLLOW ON-SCREEN DIRECTIONS

MAXTOR PERSONAL STORAGE 3100**THE EASY ECONOMICAL WAY TO ADD STORAGE**

The Maxtor Personal Storage 3100 external hard drive provides instant storage to hold digital photos, music and data files. Ideal for the home and office, it's simple to install - just plug the external drive into an available USB port on your Windows PC and immediately get up to 80GB of extra space. Use the extra capacity to free up the space on your PC or to add more of your favorite files - the 80GB drive can hold up to 75,000 digital photos (JPEG normal) or up to 1650 hours of digital music (MP3).

The Personal Storage 3100 offers a dependable Maxtor hard drive for easy add-on storage to hold your important documents and precious memories. It works with both the fast USB 2.0 interface and USB 1.1.

FEATURES

- Easy installation
- USB 2.0 & 1.1 compatible
- USB 2.0 up to 40 times faster than USB 1.1
- Compact Design
- Powered by a dependable Maxtor® hard drive
- Windows PC compatible

R3323	100GB (USB 2.0)	\$229
R3322	200GB (USB 2.0 + FIREWIRE)	\$349
Q3145	250GB (USB 2.0 + FIREWIRE)	\$399
Q3146	300GB (USB 2.0 + FIREWIRE)	\$449

R3509 80GB

\$149**PLEASE NOTE:**

All purchases subject to terms & conditions and returns policy. Delivery charges may apply. Not all items stocked in store but available for pick-up/delivery.

MEMORY CARDS AND CONNECTIVITY SOLUTIONS

CRUZER MICRO
FLASH DRIVES

ULTRA SMALL
3 SIZES
GREAT
PRICE



- Small size and easy to use
- Hi-Speed USB 2.0 certified for fast data transfer (compatible with USB 1.1)
- Two extra colour caps and a neckstrap included

P0697 128MB USB 2.0 **\$39**P0698 256MB USB 2.0 **\$49**P0699 512MB USB 2.0 **\$94**CRUZER MINI FLASH
DRIVE

SMALL SIZE
LARGE CAPACITY
GREAT
PRICE



- Small size and easy to use
- No drivers required
- Hi-Speed USB 2.0 certified for fast data transfer (compatible with USB 1.1)
- Store all your data, pictures, music and more
- Two extra colour caps and a neckstrap included

P5250 1GB USB 2.0 **\$159**

PLEASE NOTE:

All purchases subject to terms & conditions and delivery policy. Delivery charges may apply. Not all items stocked in store but available for pick-up/delivery.

SANDISK ULTRA II SECURE DIGITAL CARD

Sandisk Ultra II SD cards are ideal for your most demanding photo shoots, including photo journalism and event, sports, nature and fashion photography.

- Take advantage of the advanced features of high mega-pixel digital cameras.
- Deliver superior speed. Now you can capture those high resolution images even faster!
- Do it all with low power consumption, which means longer battery life.

All Ultra II SD cards have a minimum sustained write speed of 9MB per second and a read speed of 10MB per second.

N5441 SANDISK ULTRA II SECURE DIGITAL CARD - 512MB **\$99**R3303 SANDISK ULTRA II SECURE DIGITAL CARD - 1GB **\$179**R3304 SANDISK ULTRA II SECURE DIGITAL CARD - 2GB **\$359**

SANDISK ULTRA II COMPACT FLASH CARDS

In the fast-paced world of Digital Photography, you rely on your camera and its capabilities. You also rely on your CompactFlash card to be fast, reliable and compatible with your camera. To meet the needs of professional and advanced photographers, SanDisk has developed new, optimised CompactFlash cards that:

- Have a minimum sustained write speed of 9MB per second and a read speed of 10MB per second.
- Take advantage of the advanced features of high mega-pixel digital cameras.
- Deliver superior speed. Now you can capture those high-resolution images even faster!
- Do it all with low power consumption, which means longer battery life.

G1966 SANDISK ULTRA II COMPACT FLASH CARD - 256MB **\$49**J0506 SANDISK ULTRA II COMPACT FLASH CARD - 512GB **\$99**M6255 SANDISK ULTRA II COMPACT FLASH CARD - 1GB **\$179**

Seagate



harristechnology



Storage

NEW SEAGATE EXTERNAL HARD DRIVES

EXTERNAL HARD DRIVE 3.5INCH 7200RPM 8M FIREWIRE/USB2.0



NEW!

HIGH CAPACITY, AMAZING PERFORMANCE

These high capacity drives make it easy to store and backup your data. You can safely store business files, movies and photos, the latest games, your favorite music and more. And the interlocking design lets you securely expand your Seagate storage.

ENGINEERED FOR HIGH PERFORMANCE

7200 RPM drive with 8MB cache and whisper quiet motor lets you effortlessly store and work with massive amounts of data.

BUILT FOR SAFETY AND SECURITY

Seagate hard drives are safeguarded by built in self monitoring technology that continuously checks your hard drive for data safety and drive performance. SeaTools diagnostic software is included.

WORRY FREE, ONE YEAR WARRANTY

Warranty covers all parts and labour.

FREE TECH SUPPORT

Rely on Seagate for friendly, free technical advice even after your warranty ends.

DRIVE SPECIFICATIONS

8MB cache
7200 RPM
350 Gs nonoperating shock resistance
Mac and PC compatible

R3676 160GB **\$299**

R3677 200GB **\$349**

R3678 300GB **\$449**

Rent* \$6.71/wk

R3679 400GB **\$599**

PORTABLE DRIVE 2.5INCH EXTERNAL 5400RPM 2M USB 2.0



NEW!

EXCEPTIONAL PORTABILITY AND PERFORMANCE

Enjoy easy storage and access of large digital music, photos, video, data and multimedia files both on the desk and on the go.

ENGINEERED FOR HIGH PERFORMANCE

This 5400 RPM hard drive features a whisper quiet SonicSoft FDB motor, and delivers 50 percent more performance than 4200 RPM drives - with no increase in power consumption. You get higher speed while conserving battery life.

FAST AND EASY

Supports speeds up to 480Mbps, is hot swappable and powered by the USB bus - there's no need for power cords or adapters.

BUILT FOR SAFETY AND SECURITY

Seagate hard drives are safeguarded by built in self monitoring technology that continuously checks your hard drive for data safety and drive performance. SeaTools diagnostic software is included.

WORRY FREE, ONE YEAR WARRANTY

Warranty covers all parts and labour.

FREE TECH SUPPORT

Rely on Seagate for friendly, free technical advice even after your warranty ends.

DRIVE SPECIFICATIONS

• 2MB cache (40GB)
• 8MB cache (100GB)
• 5400 RPM
• 5000 Gs nonoperating shock resistance
• Mac and PC compatible

R3680 40GB **\$299**

Rent* \$6.71/wk

R3682 100GB **\$599**

5GB POCKET HARD DRIVE USB 2.0



The Seagate 1-inch external hard drive is the biggest small hard drive on the planet, with up to 5GB capacity. Breaking traditional cost/performance barriers, this innovative solution is available in a cool looking, USB 2.0 bus powered design. This 1-inch drive external is optimised to deliver high performance, low power consumption and reliability in a compact physical package.

APPLICATIONS

- Robust design and high shock tolerance enable mobility in demanding operating environments
- Best solution for highly portable data transfer
- Great for carrying music, photos and business files
- One year warranty

Q3001

\$349

*RENTSMART

The figures quoted are based on a per week basis over 3 years. Terms and conditions apply.

PLEASE NOTE:

All purchases subject to terms & conditions and returns policy. Delivery charges may apply. Not all items stocked in store but available for pick-up/delivery.

INTRODUCING IMATION DUAL LAYER MEDIA

IMATION
DISC STAKKA

- Perfect for business, studio and home use, with the Disc Stakka you need never waste time searching for a disk again!
- Stores, protects and retrieves up to 100 of your favourite CDs or DVDs.
- Fully motorised disc insert and eject helps protect your valuable discs.
- Simple to set up, linking to your computer via a single USB cable.
- Supplied with powerful OpDiTracker Disc Management Software - use to capture disc content, and then search an entire database of stored discs by title, keyword, directory or file name.

M4871

\$185

PLEASE NOTE:

All purchases subject to terms & conditions and returns policy. Delivery charges may apply. Not all items stocked in store but available for pick-up/delivery.

IMATION CD-RW
10X-24X 650MB/74MIN
5 PACK REGULAR JEWEL
CASE

N2988

\$10IMATION CD-R
52x 700MB/80MIN
50 SPINDLE + 5 BONUS PACK

Q1889

\$29IMATION CD-R
52x 700MB/80MIN
100 SPINDLE + 10 BONUS PACK

Q1890

\$55IMATION DVD-R
8x 4.7GB 25 SPINDLE
+ 2 BONUS PACK

Q1891

\$27IMATION DVD+R
8x 4.7GB 25 SPINDLE
+ 2 BONUS PACK

Q1892

\$27IMATION 4.7GB
8X DVD+R MEDIA - 5 PACK

P2907

\$7IMATION DVD-R 4.7GB
4X DVD+R MEDIA - 10 PACK SLIM
MOVIE CASEIMATION 4.7GB
4X DVD-R INKJET PRINTABLE
MEDIA - 25 DISC SPINIMATION BLACK
WATCH ULTRIM LTO
400GB/800GB TAPE CARTRIDGE

P2906

\$14

P2905

\$27

R3749

\$199



harris technology



Storage

OMEGA EXTERNAL DRIVES

35GB/90GB REV DRIVE
- EXTERNAL USB2.0

For a fraction of the cost of traditional backup systems, the iomega® REV™ drive gives you removable storage with hard disk performance that's up to 8× faster than tape¹. With compact, rugged 35GB disks that can store up to 90GB² of compressed data you can back up all your files, protect your system and save everything³.

Rent* \$7.27/wk

N1763

\$649

REV AUTOLOADER 1000
350GB ENTERPRISE SCSI

- Up to 350GB³ native capacity or 700GB with 2:1 compression
- Media data transfer rates of 12.7 to 25.4MB/sec
- Data seek – 12 ms (milliseconds)
- Disk load – 25-30 seconds average
- Zero maintenance required with Automatic Internal Head Cleaning and air filtration

Rent* \$32.81/wk

R0652

\$3,199

NETWORK HARD DRIVE
160GB / 250GB

The iomega network hard drive gives you up to 250GB of storage space for your home or small office network. Without adding the cost and complexity of a server, you can now share and store your critical files, photos, music, and video from any standard or wireless computer on the network. Installation is easy, just plug it in and share your files. Plus, with Touch-free™ iomega Automatic Backup software included, your important files can be saved automatically. Just customise your backup settings and the software does the rest. Simply drag and drop to restore.

R0659 160GB

\$449

R0660 250GB

\$549

NAS 200d
320GB & 480GB

An easy, affordable way for small or medium businesses and workgroups to manage, share and protect business critical information in a networked environment. Available in 320GB or 480GB capacities with RAID protection using Windows Storage Server 2003 for Seamless integration so you are up and running in minutes. Saving you time and money.

320GB
N9928Rent* \$24.64/wk
\$2,199480GB
R0648Rent* \$30.76/wk
\$2,999¹ Based on DDS-4 tape comparison² Compressed capacity assuming 2.6:1 data compression with "high" compression setting on iomega Automatic Backup Pro software. This capacity may vary since compression is data and software dependent.³ Compressed capacity assuming 2:1 data compression with software. This capacity may vary since compression is data and software dependent.

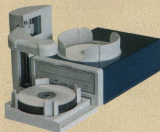
*RENTSMART

The figures quoted are based on a per week basis over 3 years. Terms and conditions apply.

PLEASE NOTE:

All purchases subject to terms & conditions and returns policy. Delivery charges may apply. Not all items stocked in store but available for pick-up/delivery.

MINI CUBIS DUPLICATOR



**THE WORLD'S SMALLEST
AUTOMATED DUPLICATOR!**
This compact device automatically loads, burns and unloads up to 25 discs at a time. Also compatible with business card and 8cm discs.

Rent* \$ 10.07/wk

Q2015 1 CD-R **\$899**

Rent* \$13.43/wk

Q2051 1 DVD±R **\$1,199**

RIMAGE 2000i CD AND DVD PUBLISHERS



- 2 drives CD or DVD
- 100 disc capacity
- Incorporates new 480i CD/DVD Printer
- Network software supports PC or MAC clients
- Up to 2 units on one PC
- Plug and Play

Rent* \$ 53.51/wk

N2212 2 CD-R **\$5,799**

Rent* \$59.97/wk

N2213 2 DVD±R **\$6,499**

*RENTSMART

The figures quoted are per week basis over 3 years. Terms and conditions apply.

PLEASE NOTE:

All purchases subject to terms & conditions and returns policy. Delivery charges may apply. Not all items stocked in store but available for pick-up/delivery.

CD/DVD PRODUCTION

COPYSMARTBLAST DVD DUPLICATORS

evocopt

BONUS
SPIN CD/DVD PRINTER



**NOW
UP TO 16X
DVD!**

**SUPPORTING
DUAL LAYER
DVD!**

- Burn discs fast with these new speedy stand alone duplicators
- Up to 16x DVD with DL support
- Ranging from 3 to 7 drives simultaneously burning
- Built-in 120GB Hard Disk with new USB 2.0 PC connection for image management
- CD only models also available.

**BONUS
OFFER**

**BONUS SPIN PRINTER WITH EVERY
COPYSMARTBLAST DUPLICATOR**

Offer now extended until 31/03/05

Q2085 3 DVD±R

Rent* \$17.92/wk **\$1,599**

Q2086 5 DVD±R

Rent* \$24.64/wk **\$2,199**

Q2087 7 DVD±R

Rent* \$26.88/wk **\$2,599**

BRAVOPRO DUPLICATE/PRINT

BravoPro[®]
DISC PUBLISHER

PRIMERA
TECHNOLOGY, INC.

- Professional, all-in-one CD/DVD publishing on your desktop
- Totally automated and hands free
- 2 Burning Drives & 4800dpi printer
- Afterburner Print Technology for fastest throughput in its class
- 100 disc capacity
- Networking Software included
- PC and Mac platform software included



**BONUS
OFFER**

**BONUS DS630 DISC SHREDDER WITH
EVERY BRAVOPRO DUPLICATOR**

Offer valid 17/01/05 - 31/03/05

Q9576 2 CD-R

Rent* \$48.90/wk **\$5,299**

Q9577 2 DVD±R

Rent* \$55.36/wk **\$5,999**

VIDEO EDITING TOOLS

PINNACLE STUDIO 9 PLUS IS HERE!

ADDITIONAL VIDEO TRACK. PAN & ZOOM ON DIGITAL PHOTOS & MORE!

STUDIO 9 PLUS SOFTWARE



Get ready for Studio Plus, the advanced version of Studio that offers more powerful and creative capabilities while retaining the award-winning interface and workflow.

STUDIO AVDV DELUXE VERSION 9 PLUS



Capture and edit home movies on your PC using any consumer videotape format. Includes a professional breakout box for easily attaching analog or digital video sources, Pinnacle Studio Plus v.9 & Pinnacle Hollywood FX Plus, which provides hundreds of additional 2D and 3D transitions and video effects.

STUDIO MOVIEBOX DELUXE VERSION 9 PLUS



Studio MovieBox Deluxe is the best-of-class external solution from Pinnacle which makes the most of a Hi-Speed USB 2.0 port to connect almost any digital or analogue video source to your PC. Includes the full version of Studio Plus v.9 and Hollywood FX Plus which provides a collection of additional filters and transitions.

Q2612 FULL **\$215**

Q3083 UPGRADE **\$115**

Q2613 **\$539**

Q2614 **\$679**

STUDIO 9 SOFTWARE



Capture home movies to your computer, edit them, add titles, music, narration and special effects and then output your edited masterpiece to videotape, DVD and the Internet.

STUDIO 9 MEDIA SUITE (SOFTWARE ONLY)



Pinnacle Studio MediaSuite features Studio Plus, Pinnacle's award-winning video editing application, Studio. Also the suite includes software for recording and editing audio for your movies soundtrack. You can also retouch photos before integrating them into a film or turning them into a slideshow.

M6012 FULL **\$175**

Q5402 **\$259**

FUSION HDTV (USB)



Watch HD Quality Digital TV anywhere on your notebook or PC compatible with USB 2.0 BUS powered ports. Supports all Australian/European HDTV and SDTV formats. Real Time Digital Video Recording (DVR) Real HD/SD Time Shifting. Supports DVB-T EPG (Electronic Program Guide) One click HDTV to DVD/MPEG4 Format conversion. Record directly into MPEG-2 (DVD Format).

Q7160

\$295

FUSION HDTV (PCI)



Dvico FusionHDTV is a hi-definition digital TV tuner that allows you to watch & record digital HDTV on your PC. It's also a video capture card that lets you capture analogue video into your computer for archiving your old VHS tapes onto DVD or converted into hi-quality DivX video files.

N9808

\$239

PLEASE NOTE:

All purchases subject to terms & conditions and returns policy. Delivery charges may apply. Not all items stocked in store but available for pick-up/delivery.



STORAGE SOLUTIONS

**Porsche EXTERNAL
DVD±R/RW/DUAL
LAYER**


LaCie new dual layer & dual format DVD±R designed by FA Porsche now burns 5 different DVD formats & 2 CD formats. LaCie Porsche Slim DVD±R drives come in a small sleek casing bus powered through USB 2.0 or FireWire. No power supply required.

P8473

\$259
**Porsche EXTERNAL
Double-Layer 8x
DVD±R/RW USB2
BUS POWERED**


- Large 8.5GB storage capacity
- Dual DVD formats - DVD-RW and DVD+RW
- Hi-Speed USB 2.0 interface
- Easily share among Windows and Mac systems

P8475

\$379***RENTSMART**

The figures quoted are based on a per week basis over 3 years. Terms and conditions apply.

PLEASE NOTE:

All purchases subject to terms & conditions and returns policy. Delivery charges may apply. Not all items stocked in store but available for pick-up/delivery.

**Porsche EXTERNAL USB 2.0
MOBILE DRIVES**


NB: The key is not included

LaCie mobile drives, designed by FA Porsche, are the perfect companion to back up your notebook or use to transfer data from one computer to another. Made of magnesium and bus powered through the USB 2.0 or firewire port. Weight only 200g and is 1.7 x 7.6 x 1.3cm in size.

BENEFITS

- Lightweight, portable design
- Hi-Speed USB interface
- AC adapter free - powered by USB bus
- Back up files on the road

SPECIFICATIONS

- Capacity: 40GB
- Interface: Hi-Speed USB
- Interface Transfer Rate: 480Mbits/s
- Rotational Speed (rpm): 4200
- Size: 17 x 76 x 129mm / .65 x 3 x 5 in. (HxWxL)
- Weight: 200g / 7.05 oz.
- Seek Time: <12 ms
- Buffer: 2MB

**40GB Porsche EXTERNAL
USB 2.0 MOBILE DRIVE**

L8434

\$279
**60GB Porsche EXTERNAL
USB 2.0 MOBILE DRIVE**

N6429

\$369
**80GB Porsche EXTERNAL
USB 2.0 MOBILE DRIVE**

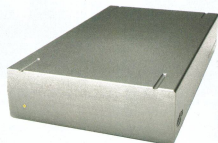
L8435

\$459
**100GB Porsche EXTERNAL
USB 2.0 MOBILE DRIVE**

Q0364

\$639

Rent* \$7.16/wk

**Porsche EXTERNAL USB 2.0
DESKTOP DRIVES**


Featuring a slim, portable body, LaCie Hard Drives were precision-engineered to deliver the performance of a race car. Blazing-fast speeds let you transfer home videos from a camcorder, save MP3s, back up your hard drive or download digital photos in minutes.

BENEFITS

- Save photos, MP3s, data files
- Stackable to save desk space
- Hi-Speed USB connection
- Back up valuable information

SPECIFICATIONS

- Capacity: 80GB
- Interface: Hi-Speed USB (USB 1.1 compatible)
- Interface Transfer Rate: 480 Mbits/s
- Rotational Speed (rpm): 7200
- Size: 35 x 112 x 188mm/1.4 x 4.4 x 7.4in.(HxWxL)
- Weight: 900g / 31.7 oz.
- Seek Time (write): <11 ms
- Buffer: 2MB
- Max sustained transfer rate: up to 34 MB/s
- Box Contents: Hi-Speed USB cable, External AC power adapter, LaCie Utilities CD-ROM

**80GB Porsche EXTERNAL
USB 2.0 DESKTOP DRIVE**

L8441

\$229
**160GB Porsche EXTERNAL
USB 2.0 DESKTOP DRIVE**

L8442

\$299
**250GB Porsche EXTERNAL
USB 2.0 DESKTOP DRIVE**

L8724

\$379



harristechnology



Accessories

CORDLESS AND OPTICAL COMBINATIONS

NOTEBOOK OPTICAL MOUSE PLUS



Simplify your mobile life. The Logitech® Notebook Optical Mouse Plus goes where you go, with built-in cord management for easy packing, all-terrain optical tracking for maximum surface coverage and shock-resistant bodywork to withstand bumps on the road. The perfect balance of comfort and mobility.

N1740 **\$45**

CORDLESS OPTICAL MOUSE BLACK



Enjoy freedom from snagged and tangled mouse cords with the Logitech® Cordless Optical Mouse. Setup is a breeze – just plug the receiver into your PC or Mac. Reliable cordless technology, smooth optical tracking, and extended battery life ensure great performance. USB and PS/2. 5 year manufacturer warranty.

N1387 **\$50**

CORDLESS DESKTOP EXPRESS



Ready, set-go cordless. Logitech's easy set-up cordless keyboard and mouse combination gives any user the perfect blend of quality, performance, and affordability. The Cordless Desktop Express™ offers convenient one-touch keyboard controls for Web access or e-mail, and precise optical mouse performance. Your work space will be easier to manage too.

Q2404 **\$59**

CORDLESS OPTICAL MOUSE FOR NOTEBOOKS



Logitech's Cordless Optical Mouse for Notebooks delivers mobility without compromise. Using a trim USB receiver, you get crisp cordless performance through Logitech's FastRF technology. Crafted to match with today's notebook PCs, it can be used with either right or left hand. An on-off switch conserves power on the road.

L6280 SILVER **\$59**

N0186 BLACK **\$59**

CORDLESS CLICK PLUS OPTICAL MOUSE



Introducing a smarter way to go cordless. The Logitech® Cordless Click™ Plus includes a revolutionary wireless mini receiver in a compact design that eliminates clutter, installs instantly, and is perfect for desktops or notebooks. Other features include a tilt wheel for side-to-side scrolling and Internet forward/back buttons. USB and PS/2. 5 year manufacturer warranty.

Q2454 **\$75**

LOGITECH CORDLESS DESKTOP LX 300



The Logitech® Cordless Desktop™ LX 300 cleans up your work space, and empowers your style. Control music and video playback, open e-mail or Instant Messenger, or navigate the Web directly from the keyboard. Distinctive F-keys are programmable. Premium cordless optical mouse tracks precisely, while a new ultra-flat keyboard delivers leading-edge comfort.

R3185 **\$89**

QUICKCAM IM



QuickCam IM includes a bonus headset for private conversations and a bonus clip for notebooks & flat panel monitors. Capture videos and photos and e-mail them in one simple click.

N9485

\$89

QUICKCAM PRO 4000



Capture high-quality videos and megapixel photos. The built-in-mic makes it easier to chat with live audio and video.

F8835

\$175

INTERNET CHAT HEADSET



Perfect for internet chat, multi-player gaming or music listening, Logitech's Internet Chat Headset has a noise-cancelling microphone to block out background noise and four interchangeable, coloured covers.

H8683

\$37

STEREO USB HEADSET



Advanced digital USB technology provides superior audio quality and simple plug and play operation. The noise-cancelling microphone filters out unwanted background noise. The headphone features comfortable leatherette ear pads.

H8688

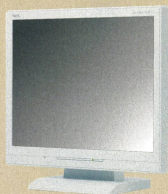
\$65

PLEASE NOTE:

All purchases subject to terms & conditions and returns policy. Delivery charges may apply. Not all items stocked in store but available for pick-up/delivery.

LEADERS IN VISUAL DISPLAY TECHNOLOGY

ACCUSYNC LCD72V



Rapid Response™ delivers uninterrupted video. NaViSet™ intuitive display settings control. Slim footprint increases desktop space. Choice of white or black cabinet. Low energy consumption saves money. Touch or protective glass integration. Rest easy with 3-year limited manufacturer warranty.

FEATURES

- Screen/viewable size: 17"/17"
- Native resolution: 1280 x 1024
- Brightness (typical): 250 cd/m2
- Contrast ratio (typical): 450:1
- Response time (typical): 16ms
- Weight (with stand): 10.1 lbs

Q2328	WHITE	\$449
Q2329	BLACK	\$449

*RENTSMART

The figures quoted are based on a per week basis over 3 years. Terms and conditions apply.

PLEASE NOTE:

All purchases subject to terms & conditions and returns policy. Delivery charges may apply. Not all items stocked in store but available for pick-up/delivery.

NEC PORTABLE LCD PROJECTORS



VT47G

- 1500 ANSI lumens
- Compact 2.9kg
- SVGA Resolution
- Quiet operations (28dB in Eco Mode)
- Lamp life 2000 hours
- Short focus lens

VT470GK

- 2000 ANSI lumens
- SVGA Resolution
- Compact 2.9kg
- Security functions
- Quiet operations (32dB)
- Lamp life 2000 hours
- Auto keystone correction

VT670GK

- 2100 ANSI lumens
- XGA Resolution
- Compact 2.9kg
- Security functions
- Auto Keystone Correction
- Short focus lens
- Lamp life 2000 hours

	Rent* \$15.24/wk	Rent* \$20.73/wk	Rent* \$28.71/wk
N9298	\$1,360	P6583	\$1,850
		P5886	\$2,799

VT770G

- 3000 ANSI Lumens
- XGA resolution
- Compact 3.6kg
- Security functions
- Automatic vertical keystone correction



M9838	Rent* \$44.17/wk
	\$4,669



harristechnology



Projectors

HP DIGITAL PROJECTORS

VP6110 DIGITAL PROJECTOR

- DLP™ technology
- 1500 lumens in brightness
- High 2000:1 contrast ratio
- Picture-in-Picture feature
- Integrated 3-watt speaker
- Lamp Saver mode (3000 hours)
- 2.9kg
- 2 year (unit exchange) warranty

**BONUS
HP m407
digital
camera^**



Rent* \$23.07/wk

K1729

\$2,059

8B21 DIGITAL PROJECTOR

- DLP™ technology
- 1000 lumens in brightness
- High 1800:1 contrast ratio
- Extremely portable at 1kg
- Carry bag included
- 2 years (unit exchange) warranty

**BONUS
HP m407
digital
camera^**



Rent* \$23.52/wk

G8845

\$2,099

MP3222 DIGITAL PROJECTOR

- DLP™ technology
- 2000 lumens in brightness
- High 2000:1 contrast ratio
- Integrated speaker
- 1.7kg - carry bag included
- 3 years (unit exchange) warranty

**BONUS
HP m407
digital
camera^**



Rent* \$29.74/wk

P7947

\$2,899

VP6120 DIGITAL PROJECTOR

- DLP™ technology
- 2000 lumens in brightness
- High 2000:1 contrast ratio
- Picture-in-Picture feature
- Integrated 3-watt speaker
- Lamp saver mode (3000 hours)
- Ceiling mountable/portable 2.9kg
- 2 year (unit exchange) warranty

**BONUS
HP m407
digital
camera^**



Rent* \$30.71/wk

K1736

\$2,994

HP PHOTOSMART m407 DIGITAL CAMERA



You have the power to take great photos with the HP Photosmart m407. It captures each image at up to 4.1 megapixel resolution, for crisp clear photos. It's designed to allow you to print and shoot easily. Thanks to its built-in colour display, it's easy to review each photo. And with the camera's intelligent Instant Share feature, sending your favourite photos via e-mail or printing it on your printer becomes truly effortless.

FEATURES

- 4.1 megapixels
- 3x optical zoom
- 6x digital zoom

^Purchase an HP digital projector between 01/03/05 and 31/03/05 and redeem your BONUS HP m407 digital camera. Email digitalprojectors@hp.com for redemption form. Redemptions must be received by April 15th 2005.

Information regarding DLP™ technology provided by Texas Instruments from research conducted by the Munsell Colour Science Laboratory (MCSL) at the Rochester Institute of Technology.

*RENTSMART

The figures quoted are based on a per week basis over 3 years. Terms and conditions apply.

PLEASE NOTE:

All purchases subject to terms & conditions and returns policy. Delivery charges may apply. Not all items stocked in store but available for pick-up/delivery.

SONY PROJECTORS AND DIGITAL CAMERAS

DSCP93

5.1 MEGAPIXEL



- 3x Optical Zoom
- 6x Digital Zoom
- 1.5" Colour LCD
- MPEG Movie VX with audio

Rent* \$6.49/wk

N3672

\$579

DSCP100S

5.1 MEGAPIXEL



- 3x Optical Zoom
- 6x Digital Zoom
- Carl Zeiss Lens
- 1.8" Colour LCD
- MPEG Movie VX with audio

Rent* \$7.22/wk

N5196

\$645

All Cybershot cameras feature PictBridge for direct printing to a printer and are supplied with a Memory Stick, Battery, Charger, AV Cable, USB Cable & Software for digital imaging on a PC.

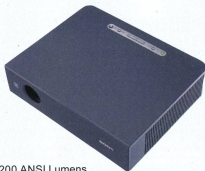
*RENTSMART

The figures quoted are based on a per week basis over 3 years. Terms and conditions apply.

PLEASE NOTE:

All purchases subject to terms & conditions and returns policy. Delivery charges may apply. Not all items stocked in store but available for pick-up/delivery.

VPLDS100 LCD DATA PROJECTOR



- 1200 ANSI Lumens
- SVGA Resolution
- Lamp life of up to 3,000 hours

The VPLDS100 is Sony's most easily affordable data projector, with SVGA resolution making it ideal for all kinds of application where great images are needed without any fuss. Sony's auto set-up features make it easy to get your show going, and where ever you use it, in education, in sales or training, the VPLDS100 will deliver what you need, where ever you are.

Rent* \$17.14/wk

P9989

\$1,530

VPLEX1 LCD DATA PROJECTOR



- 1500 ANSI Lumens
- XGA Resolution
- Intelligent Auto Set Up Function

The VPL-EX1 is one of the latest additions to the Sony family of high-quality portable projectors that is ideal for handling presentations when you are always on the move. With the same stylish design as the CX6 or CS6 projector models from Sony, the EX1 comes with features such as Superb Brightness levels, USB Compatibility, 4 Times Digital Zoom and Intelligent Auto Set-up, that make the EX1 an excellent choice, easy on the shoulders and ready to 'do its thing' when you are.

Rent* \$30.67/wk

J9934

\$2,990

VPLES2 LCD DATA PROJECTOR



- 1500 ANSI Lumens
- SVGA Resolution
- Ultra long lamp life of up to 4,000 hours

With its superb quality and flexibility, the VPLES2 is ideal for the modern lifestyle. Designed to impress, it offers powerful multimedia projection capabilities for an exceptional large screen viewing experience. Use it to play your favourite home movies, or to deliver a polished business presentation for a professional impact in the office.

Rent* \$20.72/wk

Q9803

\$1,849

VPLCX75 LCD DATA PROJECTOR



- 2500 ANSI Lumens
- XGA Resolution
- Short Focus Lens
- Air Shot Wireless Presentations
- Memory Stick Slot

The VPLCX75 is the latest ultra compact projector from Sony, delivering 2500 ANSI lumens with XGA resolution for outstanding image quality, even in bright rooms.

Advanced Intelligent Auto Setup allows presentations to be started immediately. As soon as the power is turned on, the projector initiates a host of sophisticated set-up functions, including auto-focus.

Rent* \$42.64/wk

P4290

\$4,325

ALL PRINTERS
SUPPLIED WITH
BONUS
PRINTER CABLE

EPSON®

harristechnology



Printers

EPSON PRINTERS

EPSON AL-C1900 COLOUR LASER



Up to 16ppm mono, 4ppm in full colour
25 seconds first colour page print time
EPSON ASIC imaging technologies
96MB memory standard, expandable to 1024MB
Integrated network interface
Windows and Macintosh drivers

Rent* \$12.87/wk

G8715

\$1,149

EPSON AL-C4100 COLOUR LASER



- Up to 24ppm in full-colour
- 2400 dpi with Epson RIT
- Integrated 10/100 Base TX Network Interface
- Integrated Duplex Unit for two-sided printing!
- 600 page input standard

Rent* \$33.84/wk

L5869

\$3,299

EPSON STYLUS CX6500 INKJET MULTI FUNCTION



Print up to 22ppm black
5760 x 1440 optimised dpi using RPM technology
EPSON DURABrite INK - for highly durable, water
and smudge resistant prints
Print BorderFree up to A4 prints
Standalone colour copier
Flatbed colour image scanner

P5731

\$349

EPSON AL C1100 COLOUR LASER



The EPSON AcuLaser C1100 is the affordable colour and monochrome laser printer that delivers high speed, photo quality prints for small businesses and workgroups that require a compact and easy-to-use solution. The AcuLaser C1100 features the latest in EPSON's toner technologies - AcuBrite - and a new Wrap Transfer system to produce outstanding results first time, every time.

Rent* \$8.61/wk

Q7367

\$769

EPSON STYLUS PHOTO RX630 MULTI FUNCTION



Up to 17ppm for black text A4 (memo)
5760 x 1440 optimised DPI (using RPM Technology).
BorderFree printing up to A4
Individual ink cartridge one for each of 6 colours
Standalone colour copier functionality without a computer.
High resolution 2400 x 4800 dpi scanner featuring colour restoration software
Prints from digital memory cards, direct from PictBridge cameras and direct from USB memory devices

Q5675

\$525

EPSON PERFECTION 4990 PHOTO SCANNER



- 4800 x 9600 dpi optical resolution
- High Optical Density
- Windows and Macintosh Drivers
- High Speed - new moving carriage-type TPU, new lamps, faster film scanning (negative film)
- Productive - simultaneous scan of up to 24 35mm strip frames
- The ideal scanner for professional film scanning with DIGITAL ICE dust and scratch removal for film and prints

Rent* \$9.51/wk

R2909

\$849

EPSON PICTUREMATE



THE EASY TO USE PERSONAL PHOTO LAB FOR THE HOME USER

EPSON makes creating photos from your digital camera simple, cost effective and convenient. With the EPSON PictureMate, creating lab-quality, highly durable, glossy photos has never been easier. And for less than 50 cents per photo, creating photos at home has never been more affordable!

- Lab quality 100 x 150mm border free photos without the need for a computer
- Prints at less than 50c per photo!
- Support for most available digital camera memory cards (Compact Flash, Smart Media (Max 128MB), Memory Stick, Magic Gate Memory Stick PRO, Memory Stick Duo, Microdrive, SD Memory Card, Mini SD Card, MultiMedia Card, xD Picture Card)
- EPSON UltraChrome ink - featuring new red and blue ink for brighter photos
- Print photos directly from your PictBridge compatible digital camera
- Print directly from Bluetooth compatible mobile camera phones with the optional Bluetooth adaptor

P1646

\$359

*RENTSMART

The figures quoted are based on a per week basis over 3 years. Terms and conditions apply.

PLEASE NOTE:

All purchases subject to terms & conditions and returns policy. Delivery charges may apply. Not all items stocked in store but available for pick-up/delivery.

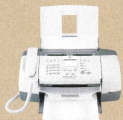
HP DESKJET & OFFICEJET SERIES

HP PSC 1315



- **Print:** up to 17ppm black, 12ppm colour, Up to 4800 x 1200 optimised dpi
- **Scan:** up to 600 x 2400 dpi
- **Copy:** 600 dpi mono, up to 1200 x 1200 dpi colour

P7035

\$139HP DESKJET 4255
ALL-IN-ONE

Ultra compact all-in-one : print, fax, scan, copy and phone in one small machine

- Up to 17ppm in black, up to 1200 x 1200 dpi
- Up to 12ppm in colour, up to 4800 x 1200 optimised dpi colour & 1200-input dpi
- Scan Quality up to 36-bit colour
- Fax Transmission 33.6 Kbps;

N8513

\$219

CASHBACK PROMO

^ Available for redemption from HP on products purchased between 01/03/05 and 31/05/05. See www.hp.com.au/promotions for claim form and full terms and conditions.

*RENTSMART

The figures quoted are based on a per week basis over 3 years. Terms and conditions apply.

PLEASE NOTE:

All purchases subject to terms & conditions and returns policy.
Delivery charges may apply.
Not all items stocked in store but available for pick-up/delivery.

HP PSC 1610



- **Print:** up to 23ppm black, 19ppm colour up to 4800 x 1200 optimised dpi
- **Scan:** up to 1200 x 1400 dpi
- **Copy:** 600 dpi mono, up to 1200 x 4800 dpi colour
- View, edit and print photos with or without a PC with PictBridge port
- Digital media card slots

HP OFFICEJET
2355 ALL-IN-ONE

- **Print:** up to 23ppm black, 18ppm colour
- Up to 4800 optimised dpi
- **Scan:** up to 1200 x 4800 optical resolution, 48-bit colour
- **Copy:** up to 23ppm black, 18ppm colour
- Borderless A4 photo printing
- View, edit and print photos with or without a PC
- Front PictBridge port and digital media card slots

HP OFFICEJET
2710 ALL-IN-ONE

- **Print:** 30ppm black, 20ppm colour
- Up 4800 optimised dpi
- **Fax:** 33.6kbps fax modem
- **Scan:** up to 2400 x 4800 optical resolution, 48-bit colour
- **Copy:** up to 30ppm black, 20ppm colour
- Borderless A4 photo printing
- Wired ethernet and wireless 802.11g networking built-in

Rent* \$7.16/wk

R5058

\$235

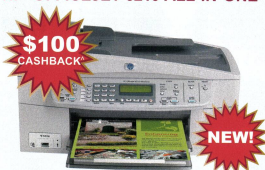
Q2901

\$325

Q2903

\$639

HP OFFICEJET 6210 ALL-IN-ONE



- **Print:** up to 23ppm black, 18ppm colour
- **Fax:** 33.6kbps fax modem
- **Scan:** 1200 x 2400 optical resolution, 48-bit colour
- **Copy:** 23ppm black, 18ppm colour
- PictBridge
- Ethernet optional

HP OFFICEJET 7210 ALL-IN-ONE



- **Print:** up to 30ppm black, 20ppm colour
- **Fax:** 33.6kbps fax modem
- **Scan:** up to 2400 x 4800 optical resolution, 48-bit colour
- **Copy:** 30ppm black, 20ppm colour
- Ethernet
- 50 page ADF
- 8 types of memory card support + PictBridge

Rent* \$6.26/wk

R5060

\$419

R5061

\$559

**ALL PRINTERS
SUPPLIED WITH
BONUS
PRINTER CABLE**



MONO LASERJET PRINTER SERIES

HP LASERJET 1320 SERIES



**\$100
CASHBACK***

Best desktop laser printer ideal for small business
workgroup or SOHO users
Prints up to 21ppm in A4
Resolution: 1200 dpi
First page out: 8.5 seconds
16MB RAM
133MHz Processor
Interface: USB 2.0 port, IEEE 1284-B compliant
parallel port

Q4065 HP LJ 1320 **\$1,069**
Rent* \$18.17/wk

Q2887 HP LJ 1320DN **\$1,249**
Rent* \$14.00/wk

Q2888 HP LJ 1320DN **\$1,459**
Rent* \$16.35/wk

Q2889 HP LJ 1320DN **\$1,649**
Rent* \$18.48/wk

HP LASERJET 4250 SERIES



**BONUS
WARRANTY
UPGRADE*
FROM 2 TO 4 YEARS
Excludes LJ 4250
model**

Up to 43 ppm in A4
Resolution: 1200 dpi
500 sheet tray & 100 sheet multi-purpose tray
Monochrome laser
Two open industry-standard CompactFlash slots

Q3919 HP LJ 4250 **\$1,699**
Rent* \$19.04/wk

Q2900 HP LJ 4250N **\$2,289**
Rent* \$23.67/wk

Q2894 HP LJ 4250TN **\$2,739**
Rent* \$28.32/wk

Q2890 HP LJ 4250DTN **\$3,289**
Rent* \$33.74/wk

HP LASERJET 2420 SERIES



**BONUS
WARRANTY
UPGRADE*
FROM 2 TO 4 YEARS
Excludes LJ 2420,
LJ2420 models**

- Prints up to 28ppm in A4
- HP Fast & ProRes 1200 - true 1200 dpi at engine speed
- 32MB standard, expandable to 288MB
- Up to 75,000 pages per month duty cycle

Q4065 HP LJ 2420 **\$1,069**
Rent* \$11.98/wk

Q2887 HP LJ 2420DN **\$1,249**
Rent* \$14.00/wk

Q2888 HP LJ 2420DN **\$1,459**
Rent* \$16.35/wk

Q2889 HP LJ 2420DN **\$1,649**
Rent* \$18.48/wk

HP LASERJET 4345MFP SERIES



Ideal for SMB as it is a Workgroup device.

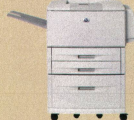
- Print:** Up to 43ppm in A4
- First page out: 10 seconds.
- Resolution: 1200 dpi
- Easy to use touch screen control panel
- All new MFP devices now share a common control panel.
- Scan:** Up to 45cpm (letter)/43cpm (A4)
- Copy:** Resolution enhanced 600x600dpi

R0332 HP LJ 4345MFP **\$4,159**
Rent* \$41.00/wk

*Available for redemption from HP. For full details visit www.hp.com.au/promotions.

*For printers purchased between 02/01/05 and 31/03/05. Visit www.hp.com.au/promotions for claim form and full terms and conditions by 10/04/05.

HP LASERJET 9050 SERIES



- Prints up to 50ppm
- First page out - approximately 8 seconds
- 600 x 600 dpi with HP FastRes 1200, Resolution Enhancement technology (RET) and HP Ultraprecise toner
- 100-sheet multipurpose tray
- 64MB DDRAM (two available DIMM slots)
- Up to 300,000 pages per month duty-cycle
- Hi-speed USB 2.0 and IEEE

Q2899 **\$6,769**
Rent* \$60.25/wk

HP LASERJET 2430 SERIES



- Prints up to 33ppm
- 1200dpi RET & FastRes 1200 dpi
- 64MB RAM, expandable to 320MB
- 400MHz processor

HP LJ 2430TN **\$2,189**
Q2892 **\$2,189**
Rent* \$24.53/wk

HP LJ 2430DTN **\$2,329**
Q2893 **\$2,329**
Rent* \$24.08/wk

*RENTSMART

The figures quoted are based on a per week basis over 3 years. Terms and conditions apply.

PLEASE NOTE:
All purchases subject to terms & conditions and returns policy. Delivery charges may apply. Not all items stocked in store but available for pick-up/delivery.

LASER PRINTERS

HP DESKJET 450WBT
MOBILE PRINTER
**\$50
CASHBACK***

- Battery and Bluetooth card included
- 9ppm in black & 8ppm in colour
- 45-page sheet feeder
- 1200 dpi black & up to 4800 x 1200 optimised dpi colour (PhotoREt 4)
- HP PCL 3 enhanced
- Window and MAC compatible

N5950 \$499
HP BUSINESS INKJET PRINTER
1200D
**UP TO
\$150
CASHBACK***

- Up to 28ppm black & up to 8ppm colour in fast mode
- Up to 1200 x 1200 dpi black & 4800 x 1200 optimised dpi colour
- 32MB RAM
- Automatic two sided printing

**HP BUSINESS INKJET 1200d
P9268 \$50 Cashback* \$349**
**HP BUSINESS INKJET 1200dtn
P9274 \$150 Cashback* \$529**

^A Available for redemption from HP. See www.hp.com.au/promotions for details.

^B For printers purchased between 02/01/05 and 31/03/05. Visit www.hp.com.au/promotions for claim form and full terms and conditions by 10/04/05.

***RENTSMART**

The figures quoted are based on a per week basis over 3 years. Terms and conditions apply.

PLEASE NOTE:

All purchases subject to terms & conditions and returns policy. Delivery charges may apply. Not all items stocked in store but available for pick-up/delivery.

HP COLOR LASERJET
5550 SERIES
**BONUS
WARRANTY
UPGRADE
FROM 2 TO 4 YEARS^A
Excludes LJ 5550
model**

- Up to 28ppm (A4)
- 600 x 600 dpi with hp ImageREt 3600
- 160MB RAM
- 533MHz processor
- 100 sheet multipurpose tray & 500 sheet tray
- 120,000 duty cycle
- Parallel & USB connectivity

Rent* \$59.98/wk
Q2214 HP Color LJ 5550 \$6,739
Rent* \$67.46/wk
Q2215 HP Color LJ 5550DN \$7,579
Rent* \$78.81/wk
Q2217 HP Color LJ 5550DTN \$9,399
HP COLOR LASERJET
2550 SERIES
**\$150
CASHBACK***

- Up to 19ppm A4 mono and up to 4ppm A4 colour
- 64MB built-in SDRAM
- 600 x 600 dpi with HP ImageREt 2400
- 30,000 pages per month
- Front control panel lets you check printer supplies and status at a glance

Rent* \$12.09/wk
N6031 HP Color LJ 2550LN \$1,079
Rent* \$15.68/wk
N6032 HP Color LJ 2550N \$1,399
HP COLOR LASERJET
4650 SERIES
**BONUS
WARRANTY
UPGRADE
FROM 2 TO 4 YEARS^A
Excludes LJ 4650
model**

- Up to 21ppm colour and black & white
- 160MB RAM
- 600 x 600 dpi with HP ImageREt 3600
- 100 sheet multipurpose tray and 500 sheet input tray
- 533 MHz RISC processor
- 85,000 pages per month

Rent* \$33.73/wk
N5949 HP Color LJ 4650 \$3,399
Rent* \$40.41/wk
N6043 HP Color LJ 4650DN \$4,099
Rent* \$52.83/wk
N6044 HP Color LJ 4650DTN \$5,725
HP COLOR LASERJET
3550 SERIES
**BONUS
WARRANTY
UPGRADE
FROM 2 TO 4 YEARS^A
Excludes LJ 3550
model**

- Up to 16ppm colour and black & white
- 600 x 600 dpi with HP ImageREt 3600
- 64MB RAM
- 533 MHz RISC processor
- 45,000 pages per month

Rent* \$19.67/wk
Q3133 HP Color LJ 3550 \$1,755
Rent* \$23.86/wk
Q3134 HP Color LJ 3550N \$2,129

MEDIA/MFP'S

harristechnology



Printers

HP CONSUMABLES

**HP LASERJET
PRINT CARTRIDGE,
J 1010 PRINTER SERIES**



2612A
field 2,000 based on 5% coverage

L0381

\$99

**HP 56A BLACK
INKJET CARTRIDGE
TWIN PACK**



C6656AA

M4800

\$49

**HP 57 TRICOLOR
INKJET CARTRIDGE AP**



C6657AA

F9886

\$49

**HP 96 AP BLACK
PRINT CARTRIDGE**



8767WA

\$48

**HP 94 AP BLACK
PRINT CARTRIDGE**



C8765WA

Q1680

\$33

**HP 95 AP TRICOLOR
PRINT CARTRIDGE**



C8766WA

Q1676

\$39



HP ORIGINAL REWARDS

HP Original Rewards is an exciting program from HP that rewards you for purchasing (and recycling) HP LaserJet Print Cartridges, Inkjet Cartridges and HP Paper. Simply sign up now and you will receive rewards points for every purchase invoice you send in.

Register now at
www.hp.com/au/originalrewards

BROTHER MFC PRINTERS

**MFC-210C 6 IN 1 INKJET
FLATBED MFC**



Inkjet Flatbed MFC with PhotoCapture Centre

Colour Printer 20ppm mono, 15ppm colour
1200 dpi x 6,000 dpi optimised. Up to 100 sheet
capacity

Colour Flatbed Copier 17cpm mono and 11cpm
colour, 600 x 1200 dpi

Colour Flatbed Scanner 600 x 2400 dpi

Colour fax 14.4bps modem, dual access

Photo capture centre smart media, compact flash,
sony memory stick pro, secure Digital, XD Picture
Card

Q1623

\$225

**MFC-620CN 8 IN 1 INKJET
FLATBED NETWORK MFC**



Inkjet Flatbed Network MFC with PhotoCapture Centre

• **Colour Printer** 20ppm mono, 15ppm colour 1200 dpi x
6,000 dpi optimised. Up to 100 sheet capacity

• **Colour Flatbed Scanner** 600 x 2400 dpi, 19,200 dpi
class interpolated

• **Colour fax** 14.4bps modem, dual access. Up to 10
page ADF

• **Photo capture Centre** smart media, compact flash,
sony memory stick pro, secure digital, xD Picture Card

• **Speaker Phone** telephone answering device

• **USB interface** optional wireless printer server available

Q1625

\$349

At your side.
brother

BLACK INK CARTRIDGE

Q1657

\$29

CYAN INK CARTRIDGE

Q1659

\$15

MAGENTA INK CARTRIDGE

Q1660

\$15

YELLOW INK CARTRIDGE

Q1661

\$15

PLEASE NOTE:

All purchases subject to terms &
conditions and returns policy.
Delivery charges may apply.
Not all items stocked in store but
available for pick-up/delivery.

SYNCMaster LCD MONITORS

COMBO DRIVE
52X 32X 52X CDRW
16X DVD

- Speeds ranging up to 52x writing, 32x rewriting, 52x CD reading, and 16x DVD reading
- EIDE/ATAPI interface
- High capacity buffer memory of 2MB
- Can be mounted both horizontally and vertically
- 2 year return to base manufacturer warranty

R1747 BLACK \$75

R1690 BEIGE \$75

DVD+/-R/RW 16X
EIDE DOUBLE LAYER

Whether it be a mountain of music, a home movie of epic proportions or a lifetime of digital memories, the sky's the limit with Samsung's new dual layer DVD burner. Store almost twice as much as standard DVD writers at blistering speeds, including 16x DVD+R, 12x DVD-R, 32x CD-RW and 48x CD-ROM. The Samsung 16x WriteMaster is head and shoulders above the rest.

- 1 year return to base manufacturer warranty

R1703 BLACK \$129

R1741 BEIGE \$129

*RENTSMART

The figures quoted are based on a per week basis over 3 years. Terms and conditions apply.

PLEASE NOTE:

All purchases subject to terms & conditions and returns policy. Delivery charges may apply. Not all items stocked in store but available for pick-up/delivery.

SAMSUNG 913N 19" LCD



- Brightness: 300cd/m2
- Contrast ratio: 700:1
- Response time: 8ms
- Analog interface
- 1280 x 1024 maximum resolution
- 3 year on site exchange and zero dead pixel policy[^]

SPECIAL FEATURES

- Built-in Power, Magic Tune, Safe Mode (Down Scaling up to UXGA), MagicBright
- Warranty (P/L/Backlight): 3y/3y/20,000h
- Stand: Simple/ HAS (Height, Swivel, Tilt, Pivot)

**SYNCMaster
913N FASTEST
RESPONSE TIME
OF 8MS**

Rent* \$8.85/wk

R2978

SILVER

\$790

730MW LCD WITH INTEGRATED TV TUNER



- 17" viewable area
- Contrast ratio 500:1
- Maximum resolution 1280 x 768
- Dual interface
- Multimedia speakers
- 3 year on site exchange and zero dead pixel policy[^]

SPECIAL FEATURES:

- Integrated TV tuner
- S-video
- HDTV ready
- PIP function

Rent* \$8.95/wk

P5689

\$799

[^]Please contact Samsung Electronics Australia for full Terms & Conditions.

ALL PRINTERS
SUPPLIED WITH
BONUS
PRINTER CABLE

SAMSUNG

harristechnology



Printers

QUALITY AND INNOVATION, NO RISK

SAMSUNG TONER

**SAMSUNG ML 2150/2151N/
2551N - 8,000 PAGE TONER
CARTRIDGE**

N1521

\$195

**SAMSUNG ML 2551N - 10,000
PAGE TONER CARTRIDGE**

L7764

\$235

**SAMSUNG ML-2250
5000 PAGE TONER CARTRIDGE**
Q2002

\$145

**SAMSUNG CLP-500
BLACK
TONER 7000 PAGE YIELD**

M9755

\$139

**SAMSUNG CLP-500
CYAN
TONER 5000 PAGE YIELD**

M9756

\$155

**SAMSUNG CLP-500
MAGENTA
TONER 5000 PAGE YIELD**

M9757

\$155

**SAMSUNG CLP-500
YELLOW
TONER 5000 PAGE YIELD**

M9758

\$155

*RENTSMART

The figures quoted are based on a per week basis over 3 years. Terms and conditions apply.

PLEASE NOTE:

All purchases subject to terms & conditions and returns policy. Delivery charges may apply. Not all items stocked in store but available for pick-up/delivery.



SAMSUNG ML - 2250

MONO LASER PRINTER

- Prints up to 20ppm in A4 at maximum print resolution of 1200 dpi
- Time-to-first-print - 10 seconds
- Comes complete with a 250 sheet paper cassette, plus a 50 sheet multipurpose feeder
- USB 2.0 and Parallel Connection
- PCL-6 driver
- Elegant ceramic gloss finish

\$379

Q1969



SAMSUNG CLP - 500

COLOUR LASER PRINTER

- 5ppm colour, 20ppm mono
- Standard auto-duplexing
- Patented NoNoise system
- Quiet - a colour laser as quiet as a mono!
- Comes with a 250 sheet paper cassette and 100 sheet paper feeder
- Connectivity USB 2.0 (USB 1.1 Compatible)
- Windows compatible
- 3 years manufacturer on-site warranty Australia wide

Rent* \$7.49/wk

\$669

M0876



SAMSUNG ML-2551N

MONO LASER PRINTER

- 3 year manufacturer onsite warranty
- Speed(A4): 24ppm
- Resolution: 1200dpi max
- Processor: Samsung 266 MHz
- RAM (Std): 32 MB
- RAM (Max): 160 MB
- Monthly Duty Cycle: 100,000 pages
- Standard Interface

Rent* \$11.19/wk

\$999

M4990



SAMSUNG SCX - 4100MFP

COPY PRINT SCAN

- 14ppm mono laser all-in-one (Windows only)
- Copy, print and scan
- Colour scanner + software suite
- Ships with 3,000 page toner

\$299

P7795

Canon

advanced simplicity

ADVANCED SIMPLICITY

CANON GENUINE INKS

When using Canon Genuine Inks you produce outstanding quality photo printing at an affordable price.



81586 Black **\$19**

81587 Cyan **\$16**

81588 Magenta **\$16**

81589 Yellow **\$16**

CANON GENUINE PAPER

Canon's range of photo paper are designed in conjunction with their range of printers & inks to deliver the highest quality photo prints.



PP101

GP401

Premium Photo Paper for professional quality photographs

K0076 PP101 20 Sheets **\$22**

Affordable photo paper for outstanding quality photographs

L7790 GP401-A4 20 Sheets **\$14**

*RENTSMART

The figures quoted are based on a per week basis over 3 years. Terms and conditions apply.

PLEASE NOTE:

All purchases subject to terms & conditions and returns policy. Delivery charges may apply. Not all items stocked in store but available for pick-up/delivery.

CANON IMAGECLASS MP780 COLOUR PRINTER/SCANNER/COPIER/FAX



ALL PRINTERS
SUPPLIED WITH
BONUS
PRINTER CABLE

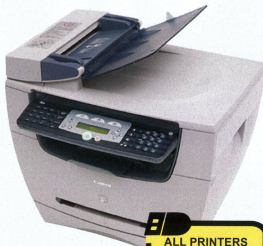
- ContrastPLUS 5 individual ink tank for vivid & heightened contrast
- Fast borderless printing and copying 4x6, 5x7 & A4
- Prints directly onto printable surface CD and DVD
- Built-in automatic duplex printing
- Automatic document feeder
- Scan at 2400 dpi optical resolution
- USB 2.0 Hi Speed
- PictBridge and Bubble Jet Direct compatible - digital camera printing
- Includes great range of software: Easy-PhotoPrint, Easy-WebPrint, PhotoRecord and CD-LabelPrint
- Super G3 33.6 Kbps fax modem
- Automatic Fax / Tel switching

Rent* \$6.26/wk

Q5710

\$559

LASER MULTIFUNCTION MF5650 PRINTER,SCANNER,COPIER,FAX



ALL PRINTERS
SUPPLIED WITH
BONUS
PRINTER CABLE

- All in one compact design
- 50 page automatic document feeder
- Prints at 18ppm, high resolution at 600 x 600 dpi and up to 2400 x 600 dpi enhanced
- 64MB SDRAM
- Fast laser copies of 18cpm at 600 x 600 dpi, up to 99 copies at a time
- Colour scanning at 1200 x 2400 dpi, TWAIN compliant
- Super G3 33.6Kbps fax modem
- Huge fax memory of up to 250 pages
- USB interface
- Optional network printing (using C6200U network adapter)

Rent* \$7.16/wk

Q0124

\$639

ALL PRINTERS
SUPPLIED WITH
BONUS
PRINTER CABLE



KONICA MINOLTA

harristech technology



Printers

THE FUTURE IN IMAGING



KONICA MINOLTA PAGEPRO 1300W

RELIABLE PRINTING SOLUTION FOR USERS NEEDING TO PRINT
A MULTITUDE OF PROFESSIONAL BUSINESS DOCUMENTS
EFFICIENTLY

- Up to 16ppm A4
- 1200 x 1200 dpi FineART™
- First page Less than 13 seconds
- IEEE 1284 parallel
- Compatibility: Windows 98SE/ME/2000/XP

L6049

\$235



KONICA MINOLTA MAGICOLOR® 2400W

DESKTOP COLOUR LASER PRINTER

Fast, small, light and easy to operate, this printer is a welcome addition to any team. The Magicolor 2400W is a cost effective colour printer that does not require special paper, unlike inkjets.

- 5ppm colour
- 20ppm black and white
- 2400 x 600 dpi,
- USB
- Windows Print System

Rent* \$7.83/wk

Q8208

\$699



NEW!

KONICA MINOLTA MAGICOLOR® 5440

THE IDEAL WORKGROUP COLOUR LASER PRINTER

The Magicolor® 3300 enables businesses to produce premium quality colour reports, presentations, spreadsheets and brochures with quality, speed and reliability they can depend upon.

- 25 ppm colour / 25 ppm monochrome
- Up to 2400 x 600 dpi resolution
- Ethernet (10/100BaseTX) & hi-speed USB 2.0 interfaces
- Windows Server 2003/XP/2000/NT4/98SE, Macintosh OSX v10.2+ compatible & Linux

Rent* \$25.84/wk

R4299

\$2,499



KONICA MINOLTA MAGICOLOR® 5430

COLOUR LASER PRINTER

With crisp and fast output, the Magicolor 5430 is the most innovative laser printer in its class. With over 30 brand new features, it is sure to impress any workgroup.

- 20ppm A4 colour or mono
- 64MB RAM
- 2400 x 600 dpi resolution
- A4, letter, legal page sizes
- USB, parallel and network interfaces
- First page print time 14.1 secs.
- GDI printing

Rent* \$19.82/wk

P8495

\$1,769

KONICA MINOLTA MAGICOLOR® 2430DL

CONNECT YOUR CAMERA
DIRECTLY TO THIS PRINTER



NEW!

- Personal colour laser printer
- Up to 20 ppm b&w, 5 ppm colour
- 10/100BaseTX Ethernet® & USB 2.0 (high Speed) interfaces
- 2400 x 600 dpi resolution
- 200-sheets input standard / 700-sheets input maximum
- Direct Photo print
- Windows® & Macintosh® compatible

Rent* \$9.51/wk

R4297

\$839

KONICA MINOLTA MAGICOLOR TONER CARTRIDGES

3300 TONER CARTRIDGE- BLACK
N5137 **\$79**

2400W TONER CARTRIDGE
- BLACK
R0703 **\$128**

2400W TONER CARTRIDGE
- MAGENTA
R0706 **\$189**

2400W TONER CARTRIDGE
- YELLOW
R0704 **\$189**

2400W TONER CARTRIDGE-CYAN
R0707 **\$189**

*RENTSMART

The figures quoted are based on a per week basis over 3 years. Terms and conditions apply.

PLEASE NOTE:

All purchases subject to terms & conditions and returns policy. Delivery charges may apply. Not all items stocked in store but available for pick-up/delivery.

CHECK OUT LEXMARK'S WEBSITE FOR THEIR LATEST PROMOTIONS

LEXMARK TONER

LEXMARK E SERIES

Lexmark E Series 2,500 page toner cartridge. Suites Lexmark E230, E232, E330 & E323n laser printers.

P2866 **\$115**

LEXMARK X215 3,200 PAGE TONER CARTRIDGE

L5690 **\$105**

LEXMARK T SERIES

T630/T632 Return Program Black Print Cartridge

K0493 **\$159**

T630/632 High Yield Return Program Black Print Cartridge

K0496 **\$359**

LEXMARK C510 SERIES

C510 High Yield Cyan Cartridge

N5852 **\$255**

C510 High Yield Magenta Cartridge

N5853 **\$255**

C510 High Yield Yellow Cartridge

N5854 **\$255**

C510 High Yield Black Cartridge

N5855 **\$179**

*RENTSMART

The figures quoted are based on a per week basis over 3 years. Terms and conditions apply.

PLEASE NOTE:

All purchases subject to terms & conditions and returns policy. Delivery charges may apply. Not all items stocked in store but available for pick-up/delivery.

LEXMARK P6250

ADVANCED FEATURES,
SIMPLE PHOTO PRINTING



- Up to 22ppm mono, up to 15ppm colour
- 4800 x 1200 dpi for sharp, glossy photos
- Borderless prints
- Full colour 2.5 inch LCD screen for photo previewing
- Print directly from your digital camera
- Easily enhance, print & manage digital photos using the Exclusive Lexmark Imaging Studio Software
- Scan to email or print: 48-bit CIS flatbed colour scanner

Q5740 **\$349**

LEXMARK E230

AN EXCELLENT EVERY DAY
PRINTER



- Outstanding performance in a desktop laser
- 17ppm A4 mono laser printer
- 100MHz processor and 8MB standard
- PCL6 emulation
- In-built 250-sheet paper drawer
- USB & parallel ports standard
- 1 year onsite exchange
- LexExpress warranty

Q2332 **\$259**

LEXMARK X215

THE AFFORDABLE LASER
MULTIFUNCTION SOLUTION



- Printer - 16ppm A4 laser printer & copier
- Copier - including 30-sheet ADF (or flatbed)
- Scanner - colour scan to PC (TWAIN)
- Fax - 33.6Kbps (Super G3) fax modem
- 250 sheet input drawer
- USB & parallel ports standard
- 1 year LexExpress warranty

L4391 **\$529**

LEXMARK E232

PERFECT FOR PERSONAL OR
BUSINESS APPLICATIONS



- Up to 21ppm A4 mono laser printer
- Fast 200MHz processor and 16MB standard
- Less than 8.5 second time to first page
- Optional 550 sheet input drawer
- USB & parallel ports standard
- 2 year onsite exchange
- LexExpress warranty

Q2333 **\$399**

LEXMARK C510

HIGH QUALITY DESKTOP
PRINTER FOR ALL YOUR
COLOUR & MONO PRINTING



- 30ppm mono & 8ppm colour laser
- 64MB expandable to 320MB
- 500MHz processor
- 2400 image quality resolution
- PostScript 3 & PCL6 emulation
- 250-sheet input expandable to 780-sheets
- USB & parallel ports standard
- 2-Years next business day onsite warranty standard
- Put it on your network N4000e - M2857 **\$265**

N2015 **\$999**

LEXMARK T630

ULTIMATE SCALABILITY



- 33ppm mono laser
- 32MB RAM (64MB N & DN models)
- 300MHz processor
- Parallel & USB ports standard
- 350-sheet input expandable to 3850 sheets
- 2-Years next business day onsite warranty standard
- Put it on your network - T630n- K0331 **\$1,78**
- Print both sides - T630dn - M4657 **\$2,26**
- Make it Multifunction - X630 - K0359 **\$3,77**

K0072 **\$1,499**

Rent*\$11.19/wk

Rent*\$16.80/wk

ALL PRINTERS
SUPPLIED WITH
BONUS
PRINTER CABLE



harristechnology



Printers

THE VALUE FRONTIER



NEW!

FS-920

- Up to 18ppm A4
- Power PC 405 266MHz
- 600 x 600 dpi
- 32MB/288MB
- 11 seconds to print first page
- A4, B5, A5, letter, legal paper sizes
- 250 sheet input cassette
- Parallel + USB 2.0
- 15,000 pages per month maximum duty cycle
- Return to base or KyoCare Exchange, 1 year or 100,000 pages whichever occurs first

R3899

\$399



FS-1020D

- Up to 20ppm A4
- Power PC 405 266MHz
- 600 x 600 dpi
- 16MB RAM (Max: 272MB)
- 10 seconds to print first page
- A4, B5, letter, legal paper sizes
- 50 + 250 sheet input
- Parallel + full speed USB 2.0
- 15,000 pages per month maximum duty cycle
- 2 year return to base warranty

Rent* \$6.71/wk

N2191

\$599



FS-1920

- Up to 28ppm A4
- Power PC 405 266MHz
- 600 x 600 dpi
- 32MB RAM (Max: 288MB)
- 9.5 seconds to print first page
- A4, B5, A5, letter, legal paper sizes
- 100 + 500 sheet input
- Parallel + full speed USB 2.0
- 125,000 pages per month maximum duty cycle
- 2 year on-site warranty

Rent* \$15.68/wk

V2002

\$1,399



FS-3830N

- Up to 33ppm A4
- PC 750 CX/300MHz
- 600 x 600 dpi
- 96MB RAM (Max: 576MB)
- 11.5 seconds to print first page
- A4, B5, A5, letter, legal paper sizes
- 100 + 500 sheet input
- Fast Ethernet 10/100 Base TX + Parallel + Hi-speed USB 2.0
- 175,000 pages per month maximum duty cycle
- 2 year on-site warranty

Rent* \$20.83/wk

N6150

\$1,859



FS-C5016N

- Up to 16ppm A4
- Power PC 750 CXe/400MHz
- 600 x 600 dpi
- 96MB RAM (Max: 608MB)
- 16 seconds to print first page
- A4, B5, A5, letter, legal paper sizes
- 100 + 500 Sheet input
- Network + Parallel + Full Speed USB 2.0
- 85,000 pages per month maximum duty cycle
- 2 year on-site warranty

Rent* \$32.89/wk

L5843

\$3,207

KYOCERA FS-1000/FS1010 -
TONER KIT

A4532

\$135

KYOCERA FS-3830N TONER
20,000 YIELD

N6559

\$175

KYOCERA FS-1920 TK-55
TONER 15,000 PAGE YIELD

N2204

\$165

KYOCERA FS-C5016N BLACK
TONER 8000 PAGES

L5849

\$115

KYOCERA FS-C5016N CYAN
TONER 8000 PAGES

L5850

\$218

KYOCERA FS-C5016N
MAGENTA TONER 8000 PAGES

L5851

\$218

KYOCERA FS-C5016N YELLOW
TONER 8000 PAGES

L5852

\$218

KYOCERA FS-C5016N COLOUR
KIT WITH BONUS BLACK
TONER

L5853

\$635

*RENTSMART

The figures quoted are based on a per week basis over 3 years. Terms and conditions apply.

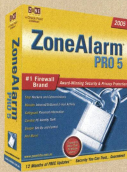
PLEASE NOTE:

All purchases subject to terms & conditions and returns policy. Delivery charges may apply. Not all items stocked in store but available for pick-up/delivery.

SOFTWARE

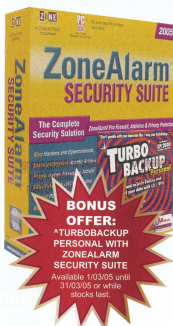
12 MONTHS OF UPDATES AND UPGRADES - SECURITY YOU CAN TRUST....GUARANTEE

ZoneAlarm®



ZONEALARM PRO 5

- Stop hackers and cybercriminals
- Monitor inbound/outbound email activity
- Safeguard personal information
- Combat PC identity theft
- Simple set-up and control

P9251 SINGLE USER **\$79**P9249 5 USER **\$299**

ZONEALARM SECURITY SUITE

• Award-Winning Firewall

Easy-to-use firewall blocks hackers and other unknown threats. Stealth mode automatically makes your PC invisible to anyone on the Internet.

• Comprehensive Antivirus Protection

Stops viruses and worms, and protects against emerging viruses before they attack.

• Powerful Identity & Privacy Protection

Keeps personal data private and secure, deletes ad-ware cookies, blocks pop-up ads, and more.

• Essential Email Security

Quarantines suspicious email attachments and blocks outbound messages containing potential viruses.

TURBO BACKUP PERSONAL

Turbo Backup Personal provides you with pre-defined templates to quickly and easily setup backups with just one click. It is packed full of features including user configurable file filtering to select only the files you want included.

- Backup and restore wizard - as easy as 1-2-3!
- Batch backup lets you perform multiple backups with one click
- Provides emergency restore, machine synchronisation
- Supports media spanning - automatically prompts for more CD / DVD when backup is larger than one disc
- Backup task management along with detailed backup information

Q6012

\$99

NEW CRYSTAL REPORTS XI



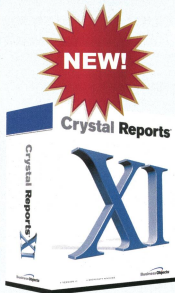
CRYSTAL REPORTS XI SERVER

PRODUCT FEATURES INCLUDE:

- Data access and report design
- Report management and delivery
- Portal and application integration
- Easy scalability for increased application longevity

PLEASE NOTE:

All purchases subject to terms & conditions and returns policy. Delivery charges may apply. Not all items stocked in store but available for pick-up/delivery.



CRYSTAL REPORTS XI SERVER

New to the Crystal Reports product suite, Crystal Reports Server is a complete reporting solution that helps small and medium-sized businesses create, manage, and deliver reports - via the web or embedded in enterprise applications. It addresses all steps in the reporting process - from data access and report design, to report management and delivery, to report integration with portals and applications. Plus, it includes Crystal Reports XI, the world standard for report creation, making it easy for existing or new Crystal Reports to be shared over the web.

WEB DELIVERY

Crystal Reports Server offers a complete web reporting solution that makes it easy and efficient for you to deliver reports to your end users. Use the Report Publishing Wizard to upload any existing Crystal Reports to the web setting report scheduling and security options at the same time. Then, provide your end users with a single URL for instant and secure access to a customisable portal for report viewing and interaction. Pre-built portal integration kits are also available to help expedite customisation into your existing portal interface.

One year of technical support and maintenance is also included for rapid deployment and peace of mind.

R5389 CRYSTAL REPORTS SERVER 11, 5 CONCURRENT ACCESS LICENSE

\$13,200

SOFTWARE

harris technology



Software

NEW EMC DANTZ RETROSPECT 7.0 FOR WINDOWS



Dantz® Retrospect® 7 for Windows provides complete protection for file servers, desktops, notebooks, and business-critical applications.

RETROSPECT PROFESSIONAL - Designed for home and small office users who want to protect a single Windows computer and up to two additional networked Windows or Macintosh desktops and notebooks by backing them up to a Windows-based computer.

RETROSPECT SINGLE SERVER - Designed for small or midsize businesses with a single server. Runs on Microsoft Windows, Macintosh and backs up and restores a single file server or business-critical application server, as well as desktops and notebooks running Windows, Macintosh and selected Unix-based operating systems.

RETROSPECT SMALL BUSINESS SERVER* - Backup and restore a single server running Windows Small Business Server, as well as networked desktops and notebooks running Windows, Macintosh, Linux Red Hat & Suse, and selected Unix based operating systems. Available in two editions- Premium edition and Standard edition. The Standard edition includes an Exchange agent and Disaster Recovery agent for the server while the Premium edition includes all the above plus the SQL Server agent.

RETROSPECT MULTI SERVER* - For small to midsize businesses with several Microsoft Windows servers. Backs up and restores computers running on Windows, Macintosh, and selected Unix operating systems.



- 4 New Wizards to have you backing up in minutes
- Accurate Restores
- Disk-to-Disk-to-Tape for faster backups
- Cross-platform support

ADD-ON PRODUCTS:

- EXCHANGE SERVER AGENT
- SQL SERVER AGENT
- ADVANCED TAPE SUPPORT
- OPEN FILE BACKUP
- DISASTER RECOVERY
- ADD-ON VALUE PACK

4121

DANTZ RETROSPECT PROFESSIONAL 7.0

\$209

4122

DANTZ RETROSPECT SINGLE SERVER 7.0

\$1,125

*CALL 1300 13 9999
FOR LATEST PRICING

LEGRAND CRM SOFTWARE - VERSION 4

AUSTRALIA'S FINEST CUSTOMER DATABASE MANAGEMENT SOFTWARE



Legrand CRM is an Australian-developed, Customer Relationship Management (CRM) solution that is both powerful and easy to use. Powerful yet practical, functional yet affordable, Legrand CRM is the ideal customer database management solution for workgroups and small businesses. If you are determined to grow your customer base, strengthen your existing customer relationships and effectively manage your sales team then you need to look at Legrand CRM. You will not find another system that is as practical and effective.

The centralised database is easily shared by all staff members in the office. All customer information is right at everyone's fingertips, thereby ensuring that everyone in the office is fully informed on all customer communications and activities. A robust data synchronization routine enables laptop users to operate a local database which they can synchronise with the main data over the office LAN.

Legrand CRM is available in different Editions to meet your size and functionality. The optional accounting interfaces (purchased separately for use with Professional edition only) enable you to exchange information with several accounting systems, including selected Quickbooks and MYOB configurations.

STANDARD EDITION

Q0314 SINGLE USER

\$275

PROFESSIONAL EDITION

Q0318 SINGLE USER

\$469

Legrand
CRM Software

STANDARD EDITION

- Account & Contact management
- Mailing list management
- Mail merge using Microsoft Word
- Group Calendar & Tasks
- Microsoft Outlook interface
- Marketing Campaigns & Events
- Sales Opportunities
- User Login control
- No optional modules available

PROFESSIONAL EDITION

- Standard edition features plus**
- Enhanced User Rights
 - Personalised Email
 - "Lapsed Customer" reporting
 - Multi-value Quicksearch
 - TAPI support

PLEASE NOTE:

All purchases subject to terms & conditions and returns policy. Delivery charges may apply. Not all items stocked in-store but available for pick-up/delivery.

CORELDRAW GRAPHIC SUITE 12 BUNDLE

COREL PAINTER™ IX

NEW
REVOLUTIONARY
ARTISTS' OILS
PAINTING
SYSTEM



Corel® Painter™ IX - the world's most powerful Natural-Media® painting and illustration software - features unique digital brushes, art materials and textures that mirror the look and feel of their traditional counterparts. The newest version of Corel Painter takes digital design to unprecedented levels with the revolutionary Artists' Oils Painting System, Snap-to-Path Painting, Quick Clone for photographers, and brushes that perform up to ten times faster than previous versions. Corel Painter enables some of the world's most accomplished creative professionals - including commercial designers, artists, and photographers - to extend their natural talents and techniques to create original works of breathtaking digital art.

Q0500 FULL **\$649**

UPGRADE / CROSSGRADE
Q0501 **\$355***

STUDENT & TEACHER EDITION
Q0502 **\$155***

*Full terms and conditions of upgrade/crossgrade are available online at corel.ht.com.au

*Proof of valid student status (of the purchaser) must be provided in order to qualify for this pricing.

PLEASE NOTE:

All purchases subject to terms & conditions and returns policy. Delivery charges may apply. Not all items stocked in store but available for pick-up/delivery.

Purchase or upgrade to CorelDraw Graphics Suite 12 (excludes student and teacher edition) and receive a BONUS Corel KnockOut 2 and KPT Collection plug-in*



CORELDRAW GRAPHICS SUITE 12

Ideal for both professional graphic designers and business people, CorelDRAW® Graphics Suite 12 offers a comprehensive graphics solution. Featuring three industry-leading applications - CorelDRAW 12 for illustration and page layout, Corel PHOTO-PAINT® 12 for digital imaging and Corel R.A.V.E.™ 3 for motion graphics creation. This powerful suite delivers incredible ease of use and a wide range of graphics functionality.

COREL KNOCKOUT 2

Hair, smoke, shadows, water, transparencies and any blurred or out-of-focus edges can now be masked with incredible precision, speeding up the entire design process. Plus, Corel KnockOut 2 is an ideal plug-in for Adobe® Photoshop®, Corel PHOTO-PAINT® or Corel® Painter™ 8, so it fits seamlessly into your workflow.

COREL® KPT® COLLECTION

The Corel KPT Collection combines a selection of all the powerful Kai's Power Tools plug-in filters of KPT® 5, KPT® 6 and KPT® effects to give professional designers an unprecedented set of creative tools. A natural addition to Adobe Photoshop®, it dramatically extends the boundaries of image editing, and makes a significant impact on your creativity and productivity.

*Includes CD media only (excludes manuals).

Available only while stocks last. Offer excludes student and teacher edition.

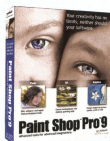
Q3712

FULL VERSION

\$645

Q3711

UPGRADE/CROSSGRADE

\$285

PAINT SHOP PRO 9

- **Photos:** Edit, enhance, and repair with precision tools.
- **Art:** Create masterpieces with realistic painting tools.
- **Graphics:** Design for presentations, print, or the Web.

Q3648

\$219

PAINT SHOP PRO STUDIO

- **Enhance:** Edit, enhance, and repair with fun tools.
- **Restore:** Restore faded, scratched, and aged photos.
- **Create:** Turn your current photos into masterpieces.
- **Craft:** Make scrapbooks, photo collages, even experiment with home.

R2481

\$159

PAINT SHOP ALBUM 5

- Find photos in the blink of an eye
- Improve photos in an instant
- Have fun sharing photos
- Protect photos from computer crashes and viruses
- Includes Bonus PhotoRecovery Software, scrapbook templates, photo paper samples, and more.

R2118

\$85



NEW MACROMEDIA COLDFUSION MX 7

TOP 10 REASONS TO UPGRADE TO MACROMEDIA® COLDFUSION MX 7

- Generate structured business reports. Easily design and generate high-quality, repeating group, structured business reports and populate them dynamically in the context of web applications
- Build rich, high-quality forms.
- Create printable Web content.
- Develop new classes of applications.
- Develop faster with Dreamweaver MX 2004.
- Achieve new levels of high availability.
- Deploy on J2EE faster.
- Protect source code investments.
- Search with new power. Boost searching with the latest Verity technology.
- Render rich charting. Produce clean, crisp charts and graphs with over 200 different modifiable attributes to control animation, colours, labels, and more. Include charts and graphs within dynamic business reports.



Macromedia ColdFusion MX 7 is the most significant release of ColdFusion since its inception ten years ago. Still the fastest way to build and deploy powerful Internet applications, ColdFusion MX 7 introduces powerful new application services including rich Flash and XForms generation, structured reports, and dynamic generation of printable documents.

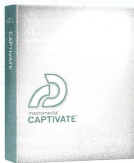
5368 COLDFUSION MX STANDARD 7 2-CPU

\$1,599

5375 COLDFUSION MX ENTERPRISE 7 2-CPU

\$7,299

MACROMEDIA® CAPTIVATE



Macromedia Captivate (formerly RoboDemo) automatically records all onscreen actions and instantly creates an interactive Flash simulation. Point and click to text captions, narration, and e-learning interactions without any programming knowledge.

Macromedia Captivate lets anyone record on-screen activity to create software simulations and product demonstrations. The result is an editable "show me" movie or demonstration complete with audio narration, captions, text captions, and highlights. Captivate can instantly generate customisable software simulations and scored interactivity and instructional feedback.

5983 FULL

\$699

M5542 FULL

\$1,879

5984 UPGRADE*

\$429

M5910 UPGRADE

\$629

*Upgrade from Robo Demo 5, Robo Demo E-Learning Edition 5, Robo Demo 4, Robo Demo E-Learning Edition 4

macromedia.ht.com.au

MACROMEDIA® DIRECTOR MX 2004



Author once and deploy anywhere with Director MX 2004, the proven multimedia tool for building rich, interactive content and applications for CDs, DVDs, kiosks, and the Internet. Director MX handles the widest variety of media, letting you build compelling, high-performance content—such as learning applications, corporate demonstrations, and games - that delivers measurable results.

Customise your applications with Director's extensible plug-in architecture and ensure smooth playback, even when using long files or videos, with Director's advanced memory management. Director MX offers powerful new features including a choice of scripting languages, DVD-video support, cross-platform publishing, and Flash MX 2004 integration.

MACROMEDIA STUDIO MX 2004



Studio MX 2004 provides professional functionality for every aspect of web development, all in one integrated package. Developers can build websites and applications with Dreamweaver, create interactive content with Flash, generate web graphics with Fireworks, and incorporate vector graphics with FreeHand. For developers delivering rich interactive applications, Studio MX 2004 is also available with Flash MX Professional 2004. Studio MX 2004 with Flash Professional includes everything in Studio MX 2004 plus the advanced capabilities of Flash MX Professional 2004.

**STUDIO MX 2004 INCLUDING
FLASH MX PROFESSIONAL
2004 WIN/MAC**

K8904

\$1,489

**STUDIO MX 2004 INCLUDING
FLASH MX 2004**

K8903

\$1,329

**UPGRADE FROM STUDIO MX
TO STUDIO MX 2004 INCLUDING
FLASH 2004**

L1535

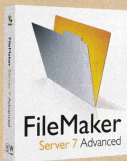
\$660

PLEASE NOTE:

All purchases subject to terms & conditions and returns policy. Delivery charges may apply. Not all items stocked in store but available for pick-up/delivery.

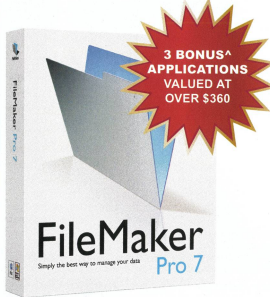
EFFORTLESSLY MANAGES ALL YOUR INFORMATION

*Purchase FileMaker Pro 7 between 1st January 2005 and 25th March 2005, and get three great FileMaker Apps worth over \$360 if you register your product online. FileMaker Meetings, Tasks and Work Requests are ready-to-use fully featured applications created by FileMaker to work hand-in-hand with FileMaker Pro 7. For full details visit www.filemaker.com.au/promos. Bonus application valued at \$366, based on FileMaker sell price as at 6 January 2005.

FILEMAKER
DEVELOPER 7N0478 FULL **\$835**FILEMAKER®
SERVER 7 ADVANCED
 P9697 FULL **\$4,199**
 R2568 VLA LICENCE# **\$4,350**

PLEASE NOTE:

All purchases subject to terms & conditions and returns policy. Delivery charges may apply. Not all items stocked in store but available for pick-up/delivery.



FILEMAKER® PRO 7

FILEMAKER PRO 7 IS THE EASIEST-TO-USE, MOST-CUSTOMISABLE, NEW VERSION OF FILEMAKER EVER.

FileMaker® Pro 7 database software is simply the fastest, easiest way to effortlessly manage, people, projects, images and information.

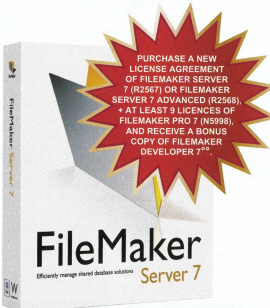
With over 100 new features, FileMaker Pro 7 is the best way to be instantly productive, while sharing your data securely with your whole work group.

FileMaker® Pro 7 helps you organise, manage and share all of your data regardless of file type, so you can uncover critical business information and turn your idea into productive, creative and customised solutions.

NEW FEATURES INCLUDE

- Visual tool for managing relationships
- Multiple views in different windows
- Store any file type in FileMaker Pro 7
- Multiple tables per file
- Improved Instant Web Publishing
- New sophisticated security model

N0476	FULL	\$460	N0477	UPGRADE	\$22
N5998	VLA LICENCE TIER 1 10-24 USERS	\$435			



FILEMAKER SERVER 7

FileMaker Server 7 is high-performance server software that efficiently manages shared database solutions.

With ease-of-use breakthroughs in sharing and administration as well as advanced security features, FileMaker Server 7 gives you easy-to-use, yet powerful features that allow you to:

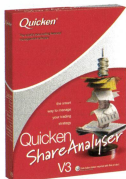
- Share databases with 2 to 250 users
- Improve the performance of peer-to-peer database sharing
- Host massive amounts of data
- Administer databases locally or remotely
- Protect your data with additional security features
- Share databases with 2 to 250 users
- Support large workgroups of more than 250 users,
- Use in a mixed-platform environment by allowing access to shared files through either Windows or Mac OS versions of FileMaker Pro 7.
- Improve the performance of peer-to-peer database sharing

**Offer available between 01/01/2005 & 24/03/2005.
For full details visit www.filemaker.com.au/promos

N6744	FULL	\$1,699	R2567	VLA LICENCE#	\$1,760
-------	------	----------------	-------	--------------	----------------

*VLA licence price includes 1 year of maintenance.

BUSINESS & PERSONAL FINANCE MADE QUICKEN. EASY



QUICKEN SHARE ANALYSR V3

THE SMART WAY TO MANAGE YOUR TRADING STRATEGY

Scan the Market

Select a pre-set scan or create your own criteria (such as price or volume increases) to monitor the share market. Save time and search for the shares that you really want to invest in.

Chart the performance of selected shares

Gain a visual understanding of the performance of shares by using charts to plot the relationship between price and volume. You can compare the movement of certain shares against the All Ordinaries or ASX 200 indices, or against other shares in the same category.

Keep an eye on your shares

Set Alerts so you don't have to check each share every day. They can notify you when a share reaches a set price or a specified movement, helping you manage your 'take profit' and 'stop loss' points.

R0024

\$286

QUICKBOOKS LITE 2004 FIRST BUSINESS

QuickBooks Lite 2004 is for you if you need an accounting solution that covers the essentials.

- Fast and easy start up
- Create invoices with one click
- Write and print cheques
- Track customer payments, expenses and liabilities
- Track GST paid and collected
- Lodge Business Activity Statement online

N4138

\$99

QUICKBOOKS PLUS 2004

QuickBooks Plus 2004 offers essential employee related accounting tools

- Easy-to-use tools to help manage your payroll
- Print pay slips and cheques directly from QuickBooks
- Includes access to 12 months support and product updates

Gives you easy-to-use tools and the latest tax tables you need to help manage and maintain control of your payroll.

Once you get started, QuickBooks Plus has over 100 reports and graphs providing an overview of your business at any time. When you need in-depth information, you can navigate between financial details and a summary report in just one click.

N4139

\$350

QUICKBOOKS POINT OF SALE

QuickBooks Point of Sale requires QuickBooks Pro 2004 or QuickBooks Premier 2004 and take advantage of QuickBooks Premier's retail specific edition.

- Point of sale for fast sales processing
- Touch screen enabled
- Point of Sale enhancements to make installation & upgrades even easier

N4560

\$475

QUICKBOOKS PRO 2004



**BONUS
UPGRADE***

QuickBooks Pro lets you prepare quotes & estimates, integrates seamlessly with Microsoft Office and has advanced tools to help you increase efficiency and accuracy.

***FULL**

N4142

\$525

UPGRADE

N4143

\$295

SUBSCRIPTION

N4144

\$230

QUICKBOOKS PREMIER 2004



**BONUS
UPGRADE***

QuickBooks Premier for up to 5 users includes comprehensive tools to meet your specialised needs: Industry specific versions for accountants, contractors, manufacturers & wholesalers, not-for-profit organisations, professional organisations, retailers, or property managers.

***FULL**

N4147

\$1,299

UPGRADE

N4149

\$625

SUBSCRIPTION

N4151

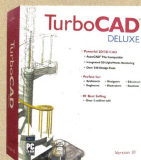
\$460

BONUS UPGRADE

*Purchase QuickBooks 2004 Full version Products (part: N4139, N4142 or N4147) and register them between 01/03/05 - 30/03/05, and Quicken will send the 2005 Upgrade (free delivery) when it is released.

PLEASE NOTE:

All purchases subject to terms & conditions and returns policy. Delivery charges may apply. Not all items stocked in store but available for pick-up/delivery.

TURBOCAD DELUXE
V10.0

TurboCAD® Deluxe puts advanced CAD capabilities within everyone's reach! Easily access over 250 2D/3D precision design tools to create professional quality sketches, drawings, and 3D surface models. Work in a familiar Windows®-like environment to quickly draft and design home plans, technical drawings, solid models, artistic illustrations and more.

Using the Step-By-Step Wizard, TurboCAD® Deluxe will help you set up your drawing size, scale, and all settings automatically. The Associative Dimensioning tools allow you to insert any type of dimension in one step. You can even create multiple dimensions simultaneously with the new Quick Dimension tool. When you change objects, the associative dimensions will automatically adjust to the change!

Perfect For:

- Architects
- Engineers
- Designers
- Illustrators
- Educators
- Students

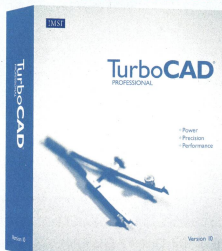
N9481

\$189

PLEASE NOTE:

All purchases subject to terms & conditions and returns policy. Delivery charges may apply. Not all items stocked in store but available for pick-up/delivery.

TURBOCAD PROFESSIONAL V10.0



*Full Working version - No Student ID required.

N6151

FULL

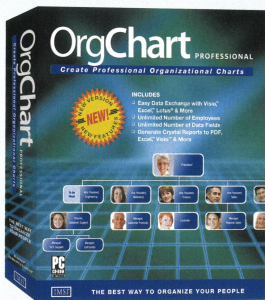
\$91

P2292

ACADEMIC*

\$28

ORGCHART PROFESSIONAL V1.3



The latest version of OrgChart™ Professional sets the standard for organising your company's people and departments. By combining an intuitive design with a powerful database, OrgChart Professional enables anyone to create dynamic org charts in minutes.

CREATE

- Smart Chart Creation Wizard produces org charts direct from files in minutes
- Import from Visio, Excel, Orgplus, Lotus and more!
- Use professionally designed templates for high-impact high quality charts

MANAGE

- Develop new databases automatically during chart creation
- Update, add data and fields with drag-and-drop editing
- Keep pace with changes through built-in tracking, analysis and planning tools

SHARE

- Compile charts, analysis, data into pre-defined or customised report formats
- Publish org charts in any Microsoft® Office document presentation, application or Web page
- Export orgcharts into image formats and databases for work collaborations

N1794

\$16

HAT TODAY'S CAD DESIGNERS WANT

AUTOCAD® 2005

Creating a single drawing as efficiently as possible is important. Delivering a coordinated set of drawings in a timely manner directly benefits your bottom line. With AutoCAD 2005 you can do both. Everyday tools like the table object and tool palettes boost productivity, and the new Sheet Set Manager helps you control content across entire sets of related drawings, enabling you to lower the risk for errors. Then, in a single view, you can compose and collate sheet sets and share them with your project team using plots, eTransmit, or DWF™ (Design Web Format™) files.

N0571

\$5,999

AUTOCAD LT® 2005

With AutoCAD LT 2005 you can easily create, plot, publish, and share your 2D designs. You get more done in fewer steps with a streamlined plotting interface and drafting features that boost your productivity. Quickly create tables, better manage large groups of layers, and conveniently access frequently used content to work more efficiently. Sharing your data widely is a snap: even team members without AutoCAD LT software can view and mark up your published DWF™ files, and you can instantly distribute multiple DWG files in a single step. Plus background plotting frees you to work while you print out your drawings.

N0569 FULL

\$1,895

N0570 UPGRADE*

\$639

*UPGRADE FROM LT2000i/2002/2004

VOLO™ VIEW 3

Volo View 3 software is a cost-effective, easy-to-use, digital design viewing solution that lets everyone on your team electronically review, mark up, measure and plot AutoCAD and Autodesk Inventor™ based drawings. Upgrades also available.

J6133

\$299

AUTOSKETCH® 9

AutoSketch 9 software provides a comprehensive set of CAD tools for creating precision drawings - from electrical details to floor plans, from conceptual sketches to product specifications, and much more.

AutoSketch 9 provides: Comprehensive CAD tools for creating expert-quality drawings • Straightforward drafting in a Windows XP - like environment • Tutorials and wizards for a fast start.

P7266

\$195

AUTODESK SYMBOLS 2000

A comprehensive library of Autodesk Symbols covering both Architectural and Engineering services. Simply drag and drop from a toolbar-style graphical interface directly into your AutoCAD drawings.

Autodesk Symbols 2000 Architectural - Contains over 5,600 symbols for building design and documentation.

Autodesk Symbols 2000 Engineering - Contains over 10,800 symbols covering all aspects of Engineering.

A1319 ARCHITECTURAL

\$195

A1320 ENGINEERING

\$195

STUDENT EDITION# DESIGNED FOR PROFESSIONALS, PRICED FOR STUDENTS

MANUFACTURING SERIES



- Autodesk Inventor
- Autodesk Mechanical Desktop
- AutoCAD Mechanical
- Shaping your data widely is a snap: even team members without AutoCAD LT software can view and mark up your published DWF™ files, and you can instantly distribute multiple DWG files in a single step. Plus background plotting frees you to work while you print out your drawings.

Q1675

\$265*

BUILDING SERIES



- Autodesk Architectural Desktop
- AutoCAD (included as part of Autodesk Architectural Desktop)

N6783

\$265*

REVIT SERIES



- Autodesk Revit
- AutoCAD

R0081

\$265*

#Proof of valid student status (of the purchaser) must be provided in order to qualify for this pricing.

PLEASE NOTE:

All purchases subject to terms & conditions and returns policy. Delivery charges may apply. Not all items stocked in store but available for pick-up/delivery.

SMALL BUSINESS SOLUTIONS

PCANYWHERE V11.5



\$70⁺
UPGRADE
REBATE
 NOW SUPPORTS
 LINUX

Symantec pcAnywhere™, with powerful file transfer, robust security, strong remote management tools, and a new suite of features for increased accessibility, performance, and security that make it easy for helpdesk and IT personnel to resolve server and workstation problems.

V11.5 HOST AND REMOTE

Q6649

\$259

V11.5 HOST ONLY

(INCL.1 REMOTE) 5 PACK

Q6650

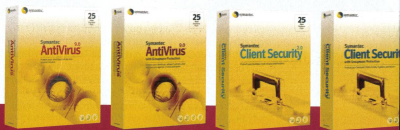
\$539
PCANYWHERE V11.5
UGRADE REBATE
OFFER
TERMS & CONDITIONS:

Valid on purchases of new product before 31/12/05. Rebate requests must be received by 14/01/06. For previous customers only. Coupon in box, items via redemption. Customer rebate requests will be sent to and fulfilled by symantec Australia. Offer not available to resellers.

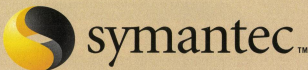
For full terms & conditions please see: www.symantec.com.au/region/au_nz/promo/

PLEASE NOTE:

All purchases subject to terms & conditions and returns policy. Delivery charges may apply. Not all items stocked in store but available for pick-up/delivery.


AREAS OF
PROTECTION
Symantec
AntiVirus™ 9.0Symantec
AntiVirus™ 9.0
with
Groupware
ProtectionSymantec™
Client Security
2.0Symantec™
Client Security
2.0 with
Groupware
Protection**DESKTOP/REMOTE PC**
**REMOVES VIRUSES, WORMS,
AND TROJAN HORSES
AUTOMATICALLY**
**DETECTS CERTAIN NON-VIRUS
THREATS SUCH AS SPYWARE**
**STOPS WORMS FROM
SPREADING THROUGH EMAIL**
**PROTECTS COMPUTERS FROM
HACKERS WITH A DESKTOP
FIREWALL**
**BLOCKS INTERNET ATTACKS
WITH INTRUSION DETECTION**
NETWORK SERVER
**REMOVES VIRUSES, WORMS,
AND TROJAN HORSES
AUTOMATICALLY**
**DETECTS CERTAIN NON-VIRUS
THREATS SUCH AS SPYWARE**
**INCLUDES A CENTRALISED
CONSOLE TO INSTALL, UPDATE,
AND RESPOND**
**MICROSOFT EXCHANGE/
LOTUS DOMINO SERVERS**
**REMOVES VIRUSES, WORMS
AND TROJAN HORSES IN EMAIL**
**FILTERS SPAM AND UNWANTED
EMAIL CONTENT**

PART	N7808	N7790	N7770	N7776
5 USER	\$399	\$549	\$519	\$729
PART	N7809	N7793	N7771	N7799
10 USER	\$749	\$989	\$959	\$1,279
PART	N7810	N7795	N7772	N7800
25 USER	\$1,599	\$2,219	\$2,069	\$2,899



05 VERSIONS AVAILABLE NOW



\$70⁺
UPGRADE
REBATE



\$50⁺
UPGRADE
REBATE



GREAT VALUE BUNDLE!

Symantec Norton SystemWorks™ 2005 Premier gives you powerful tools to solve PC problems and protect data. This easy-to-use suite helps you eliminate viruses, back up your files, and prevent computer problems. A new recovery disk allows you to recover data even when Windows won't start up. **Includes full version of Norton Ghost 9.0.** Norton Ghost 9.0 is developed with Drive Image™ Technology - this new technology allows users to take advantage of key features such as hot imaging, incremental backups, automatic backups and creating drive letters for images.

R0242 BUNDLE PRICE

\$159

GREAT VALUE BUNDLE!

Symantec Norton SystemWorks™ 2005 is the smartest way to solve computer problems and protect your valuable data. This easy-to-use software helps you eliminate viruses, prevent computer problems, and restore your system to a healthy state. The improved One Button Checkup makes it easier than ever to find and fix computer problems.

R0231 BUNDLE PRICE

\$129

NORTON INTERNET SECURITY™ 2005**

Symantec's Norton Internet Security™ 2005 provides essential protection from viruses, hackers, and privacy threats. Norton AntiVirus™ is the world's most trusted antivirus solution*. Norton™ Personal Firewall keeps personal data in and hackers out. And Norton™ Privacy Control, Norton AntiSpam™, and Norton™ Parental Control safeguard you and your family from other common online risks.

Q0503 SINGLE USER **\$119**

Q0504 3 USER **\$185**

R1942 5 USER

\$279

NORTON PERSONAL FIREWALL 2005

Symantec's Norton™ Personal Firewall 2005 keeps personal data in and hackers out. Right out of the box, it makes your PC invisible on the Internet so that hackers can't find it. And easy-to-use privacy controls prevent personal information from being sent out without your knowledge.

Q0426 SINGLE USER **\$85**

Q0427 5 USER **\$189**

NORTON ANTIVIRUS 2005

Symantec's Norton AntiVirus™ 2005 is the world's most trusted antivirus solution.* It removes viruses, worms, and Trojan horses automatically - without interrupting your work. New Norton™ Internet Worm Protection blocks certain more sophisticated worms (such as Blaster and Sasser) before they enter your computer. Norton AntiVirus can also detect spyware and other non-virus threats.

R0208 SINGLE USER **\$79**

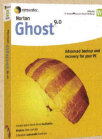
R2137 3 USER **\$125**

R3746 5 USER

\$189

* Top-selling antivirus software product from December 2000 through March 2004 based on The NPD Group's retail Top Selling Business Software list.

NORTON GHOST 9.0



Norton Ghost 9.0 is developed with Drive Image™ Technology - this new technology allows users to take advantage of key features such as hot imaging, incremental backups, automatic backups and creating drive letters for images.

Q0030

\$125

SYSTEMWORKS REBATE OFFER

^TERMS & CONDITIONS:

Between 17/01/05 and 31/03/05, purchase any Norton SystemWorks 2005 Premier and Norton Personal Firewall 2005 Standard Edition Bundle and receive a bonus \$70 AUD/NZD rebate. Purchase any Norton SystemWorks 2005 and Norton Personal Firewall 2005 Standard Edition Bundle and receive a bonus \$50 AUD/NZD rebate. Rebate offers are redeemable from Symantec.

For full terms & conditions please see: www.symantec.com.au/region/au_nz/promo/

*Proof of valid student status (of the purchaser) must be provided in order to qualify for this pricing.

PLEASE NOTE:

All purchases subject to terms & conditions and returns policy. Delivery charges may apply. Not all items stocked in store but available for pick-up/delivery.



NEW MYOB RETAILREADY!

VIA REDEMPTION

^The Posiflex Thermal Printer PP7000, Scanner CD2860 and Cash Drawer CR3100 are available via redemption from MYOB.

(Colour of Posiflex hardware may vary due to availability)

- Product must be registered to redeem.
- Redemption form from inside the box must be completed and accompanied by proof of purchase.
- Standard postage of 50c applies to send in your redemption to MYOB

MYOB RETAILMANAGER



MYOB RetailManager – Tracks everything in your store to help you control every aspect of your retail business. Suitable for growing retail businesses that require stock/staff/supplier management and advanced reporting. Ability to add additional sales stations and share store information between each terminal.

N8884

\$1,650

MYOB FIRSTEDGE-MAC



MYOB FirstEdge has been custom-written to capture the unique personality and intuitive functionality of the Mac, helping you work faster and more effectively on all of your basic business management and accounting tasks.

L4563

\$99

PLEASE NOTE:

All purchases subject to terms & conditions and returns policy. Delivery charges may apply. Not all items stocked in store but available for pick-up/delivery.



MYOB RETAILREADY

MYOB RetailReady contains all the software and hardware you need to start running your retail business smarter and more efficiently.

MYOB RetailReady includes:

- MYOB RetailBasics POS software
- Posiflex Thermal Printer PP7000^
- Posiflex Scanner CD2860^
- Posiflex Cash Drawer CR3100^

RetailBasics enables you to:

- Search for stock and maintain stock items
- Analyse what's selling, what's not and GST collected
- Manage Lay-bys and process refunds
- Collect and analyse customer information
- Track credit card surcharges
- Export to most MYOB business software products

R5316

\$80

MYOB ACCOUNTING

MYOB Accounting is designed to help owner operators process sales and purchases, track receivables, payables and GST, email your quotes and invoices and more – all with the click of a few buttons. And if you carry stock, MYOB Accounting helps you track, back-order, buy or build what you need.

N4708

FULL

\$249

N4711

UPGRADE

\$21

MYOB ACCOUNTING PLUS

MYOB Accounting Plus – Australia's leading business management software for employers. With an award winning integrated payroll, MYOB Accounting Plus is the ideal single-user business management and accounting solution for smaller employers. MYOB Accounting Plus also makes it easy to track and charge for your time, and provides access to powerful profit-building information about your business.

N4713

FULL

\$469

N4715

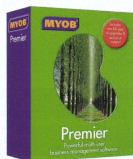
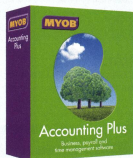
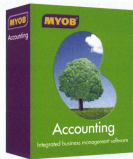
UPGRADE

\$260

MYOB PREMIER

MYOB Premier – when more than one person needs to access your accounts at the one time. Including 12 months of upgrades and technical support, MYOB Premier is Australia's leading multi-user business management and accounting software with integrated payroll, inventory, time billing and multiple currency transaction capability.

N4716

\$1,299



MICROSOFT WINDOWS XP WITH SERVICE PACK 2 NOW AVAILABLE

INTRODUCING WINDOWS XP SERVICE PACK 2 WITH ADVANCED SECURITY TECHNOLOGIES

Service Packs offer convenient, all-in-one access to the most up-to-date drivers, tools, security enhancements, and other critical updates. The latest service pack for Windows XP - Service Pack 2 (SP2) - is all about security improvements, and it's one of the most important service packs ever released.

SERVICE PACK 2 BENEFITS INCLUDE:

- Take more control with Windows Security Centre** - here you can check your Windows Firewall, AV Software and Windows Security updates easily in location.
- Help protect your PC with the NEW Windows Firewall** - a Firewall helps you to guard against unwanted attacks to your PC when you are connected to the Internet.
- Block distracting pop-ups in Microsoft Internet Explorer** - now you have the option to reduce unwanted advertising and content and stop wasted bandwidth by blocking unwanted advertising pop-ups.
- Attachment Manager** - helps protect against viruses that can spread through E-Mail, Windows Messenger and Internet Explorer by identifying potentially unsafe attachments.
- Bluetooth Hardware Support** - Bluetooth is the latest in Wireless technology that enables you to link your PC with the latest Bluetooth-enabled wireless devices, including keyboards, mice, printers and mobile phones.

WINDOWS XP HOME - WITH SERVICE PACK 2 INCLUDED

WINDOWS XP PROFESSIONAL - WITH SERVICE PACK 2 INCLUDED



**\$40 CASH
BACK
OFFER***

details on
page 62



**\$40 CASH
BACK
OFFER***

details on
page 62

The most dependable Windows operating system at Windows XP sets the standard in efficient computing with a new visual design, the reliable Windows engine, and Internet security features.

Handle digital media like a pro

Transferring footage to your computer is faster and editing is easier than ever, with everything you need to create, edit, and share your home movies.

Get connected

Windows XP has built-in Internet, home networking, and real-time voice, video, and instant messaging support. Publish pictures to a Web site or shop online.

Use Remote Assistance to solve problems

Invite a friend or support professional to connect to your PC over the Internet to fix a problem or answer a question.

• Added features

The Professional Edition adds security and privacy, advanced recovery options, improved network connections, and more to the features of Home Edition.

• Superior mobile support

Work offline or access your computer remotely with ease with wireless networking support, configuration wizards, improved power management, and more.

• Greater security

Encrypt your files and folders with the highest levels of protection from hackers and data theft, and connect to Virtual Private Networks securely.

• Integrated and current

Integrate with Windows Servers and management solutions and keep your system current with automatic Windows Update.

Q0447 FULL

\$425

Q0458 UPGRADE

\$315

Q0459 UPGRADE - ACADEMIC*

\$120

Q0452 FULL

\$299

Q0455 UPGRADE

\$150

FOR CURRENT USERS OF WINDOWS XP

If you already own Windows XP, it is strongly recommended by Microsoft to download and install Service Pack 2 (SP2). To do so you can download SP2 or arrange to have it shipped on CDROM.

BROADBAND USERS

Broadband users can download Microsoft Windows XP SP2 (100MB stand alone version). Microsoft has provided SP2 for free download at www.microsoft.com/australia/windows/sp2

DIAL-UP USERS

Due to the large file size of the Service Pack, we don't recommend you download it if you are on a dial-up connection. Dial-up users can instead order a Windows XP SP2 CD online.

www.microsoft.com/australia/windows/sp2

ORDERING

If you would rather have Windows XP SP2 delivered to you, see this web address www.microsoft.com/australia/windows/sp2 to order a CD version of SP2 by mail*

*Shipping and handling costs may apply

WINDOWS XP SP2 - SYSTEM REQUIREMENTS

To install Windows XP SP2 via CD, you need:

- A PC with Windows XP Home Edition, Professional, Media Center Edition or Tablet PC Edition installed
- 233MHz or higher processor
- 64MB of RAM or higher
- 1.6GB of available hard disk space during installation
- CD-ROM drive

*For non commercial use. Must be a Qualified Education User. For eligibility criteria visit: <http://www.microsoft.com/australia/education/howtobuy/meud/studentsandteachers.aspx>

PLEASE NOTE:

All purchases subject to terms & conditions and returns policy. Delivery charges may apply. Not all items stocked in store but available for pick-up/delivery.

LOWER THE COST OF LEARNING

MICROSOFT OFFICE PROFESSIONAL EDITION 2003



**\$75
CASH BACK
OFFER***

Microsoft® Office Professional Edition 2003 can help you and your organisation communicate information with immediacy and impact. New and familiar programs and improved functionality help you build powerful connections between people, information, and business processes. The most complete personal and business productivity solution available from Microsoft. Get everything in Small Business Edition 2003, plus:

- Database creation and management tools, with Microsoft Access.
- Full XML support in Word, Excel, and Access.
- Information Rights Management Technology (IRM).

FULL

L0804

\$799

UPGRADE

L0805

\$530

ACADEMIC*

L0803

\$315

PLEASE NOTE:

All purchases subject to terms & conditions and returns policy. Delivery charges may apply. Not all items stocked in store but available for pick-up/delivery.



**\$75
CASH BACK
OFFER***

MICROSOFT OFFICE STANDARD EDITION 2003

Reliable, compatible, and easy to use, Microsoft® Office Standard Edition 2003 can help you accomplish your personal tasks with the confidence of working with the industry leader.

- Junk e-mail filtering and blocking of unsafe attachments
- Automatic backup and recovery of documents
- Quick and easy document creation and sharing

L0800

FULL

\$645

L0801 UPGRADE

\$38

**\$75
CASH BACK
OFFER***

STUDENT AND TEACHER EDITION 2003

Microsoft® Office Student and Teacher Edition 2003 contains full versions of the same applications found in Standard Edition 2003, but value-priced specifically for families with students or teachers, and budgets to match.* Get everything in Standard Edition 2003, plus installation rights for up to three of your home PCs*.

L0802

FULL

\$26

**\$75
CASH BACK
OFFER***

MICROSOFT OFFICE SMALL BUSINESS EDITION 2003

Microsoft Office Small Business Edition 2003 is a comprehensive suite of Microsoft Office tools designed specifically for the needs of businesses just like yours. Get everything in Standard Edition 2003, plus:

- More than 20 preformatted business reports
- Easy-to-use wizards to create e-mail newsletters and printed marketing materials

L0826

FULL

\$735

L0827 UPGRADE

\$45

TERMS AND CONDITIONS FOR OFFER:

*Microsoft Lower the Cost of Learning Promotion

Between 1 January 2005 and 31 March 2005 buy any Microsoft: Office 2003 Edition and receive \$75 cash back, Office Mac Edition and receive \$75 cashback, Office 2003 Application and receive \$50 cash back, Windows XP with SP2 Home or Professional and receive \$40 cash back, Encarta Premium Suite 2005 and receive \$30 cash back.

Please go to www.microsoft.com/australia/office to obtain a copy of the official claim form and further details regarding this promotion. Simply read and fill out the official claim form, sign and date the acceptance of Terms and Conditions stated at the bottom of the Claim Form, attach a legible photocopy of your receipt(s) (no handwritten receipts) and send them to: Microsoft Cash Back, PO Box 496, West Ryde NSW 1885. We must receive your claim by 5pm AEST 15/04/05. Once your claim has been received and verified you will be sent your cash back via cheque within 14 days. Any queries please call 1800 233 033 or email us at cashback@promtel.com.au

© 2003 Microsoft Corporation. All rights reserved. Microsoft and the Office logo are either registered trademarks or trademarks of Microsoft Corporation in the United States and/or other countries.

† For non commercial use. Must be a Qualified Education User. For eligibility criteria visit: <http://www.microsoft.com/australia/education/howtobuy/meud/studentsandteachers.aspx>



harris technology

BUSINESS CENTRE LOCATIONS NSW

NORTH RYDE

45 Epping Road
North Ryde NSW 2113
Phone (02) 8879 5130

TRADING HOURS:

7am - 7pm Monday to Friday
9am - 4pm Saturday & Sunday

NORTH SYDNEY

Ground Floor Bayer Building
275 Alfred Street North
North Sydney NSW 2060
Phone (02) 8923 9410

TRADING HOURS:

9am - 6pm Monday to Friday
9am - 4pm Saturday & Sunday

PARRAMATTA

46 George Street
Parramatta NSW 2150
Phone (02) 8835 4110

TRADING HOURS:

8:30am - 6pm Monday to Friday
9am - 4pm Saturday & Sunday

ALEXANDRIA

Unit 1, 110 Botany Road
Alexandria NSW 2015
Phone (02) 8306 4210

TRADING HOURS:

8:30am - 5:30pm Monday to Friday
9am - 4pm Saturday & Sunday

VIC

ABBOTSFORD

212 Hoddle Street
Abbotsford VIC 3067
Phone (03) 9418 4110

TRADING HOURS:

8am - 7pm Monday to Friday
10am - 5pm Saturday & Sunday

HAWTHORN EAST

612 Burwood Road
Hawthorn East VIC 3123
Phone (03) 9810 4610

TRADING HOURS:

8am - 7pm Monday to Friday
10am - 5pm Saturday & Sunday

ACT

FYSHWICK

29-31 Townsville Street
Fyshwick ACT 2609
Phone (02) 6126 3410

TRADING HOURS:

8:30am - 5:30pm Monday to Friday
9am - 4:00pm Saturday & Sunday

QLD

FORTITUDE VALLEY

356 St Pauls Terrace
Fortitude Valley QLD 4006
Phone (07) 3250 4110

TRADING HOURS:

8am - 6pm Monday to Friday
9am - 4pm Saturday & Sunday

WA

OSBORNE PARK

426 Scarborough Beach Rd
Osborne Park WA 6017
Phone (08) 9208 0310

TRADING HOURS:

8:30am - 5:30pm Monday to Friday
9am - 4:00pm Saturday



SA

CORPORATE OFFICE ONLY

Business Centre Coming Soon!
Phone (08) 8300 2411

HP PROLIANT ML110 SBS SERVER

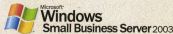
PLUS MICROSOFT WINDOWS SMALL BUSINESS SERVER 2003

PLUS 5 CALS STANDARD (PRE-INSTALLED)



THE
PERFECT
SMALL
BUSINESS
SERVER

- Intel Pentium 4 2.80E GHz with HyperThreading Technology
- 512MB PC3200 DDR SDRAM
- Gigabit NIC (embedded) 10/100/1000 WOL (Wake on LAN)
- 36.4GB Ultra320 SCSI 10K
- Internal Storage 288GB maximum



Rent* \$15.68/wk

P2686

\$1,399

BUYERS GUIDE

Volume 5, Issue 2 Hardware • Software • Computers

NEW!
Expanded
64-page
issue!

MYOB RetailReady

See how MYOB RetailBasics Point Of Sale software and Posiflex hardware can turn a standard PC into a powerful EASY solution.

MYOB's RetailReady contains:

- MYOB RetailBasics POS software
- Posiflex Thermal Printer PP7000
- Posiflex Scanner CD2860
- Posiflex Cash Drawer CR3100

See Page 45

\$812

WebCode: MY80040



O2 XDAII Mini Integrated Pocket PC & GSM phone

- MS Win Mobile 2003 PocketPC Phone Edition
- Bluetooth 1.2 compliant
- 2.8" Transflective TFT LCD Screen
- 1.3 mega-pixel VGA camera
- Colour CMOS 1.3 mega-pixel camera
- Approx. 58 (M) x 108 (H) x 18.1 (T) mm
- Sensitive touch screen
- Weight with battery: 150g
- Tri - band GSM / GPRS

See Page 12

\$969

WebCode: XDA0300

MS Windows XP Professional with Service Pack 2 Upgrade

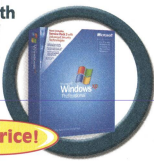
Delivers everything you demand from your computing experience. Whether you're on your own or running a business of any size, optimize your productivity with the digital world's latest innovations.

See Page 43

\$297

WebCode: MSS9502

Hot Price!



SanDisk Digital Photo Album

The SanDisk Photo Album now makes it simple, convenient and affordable to view, store and share your favorite digital photos, video clips and music on your TV. No computer is required! Family and friends no longer have to crowd around a computer or your camera's LCD screen to view photos.

See Page 21

\$88

WebCode: VME0005

IN THIS EDITION

HARDWARE:

Slim, Sleek & Sturdy7

Scan our new range of Viewmaster Advantage Business Systems.

Can You Hear it?32

Check out our selection of ultra-cool Sennheiser headphones.

SOFTWARE:

Pest Patrol!51

Sweep your system of spyware, adware and other threats.

Games, Gadgets and Gear59

Explore our expanded lineup of the latest gaming titles and peripherals.

NEW!

Bonzer Books38

"Skill up" with our new range of books on Adobe, Macromedia, Internet Security and more.

Is Licensing for You?44

Browse a variety of Software Licensing opportunities.



CITY SOFTWARE

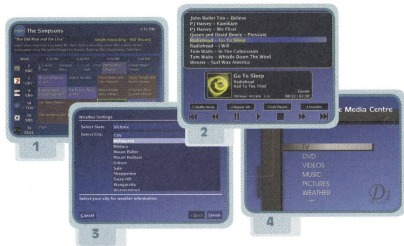
Black Tie Service, Plain Wrap Prices*



The Home Media Centre by D1

The Home Media Centre (HMC) by D1 is the ultimate media accessory for the digital era. With the HMC you can pause, rewind and fast forward live, free to air (including Standard Definition Digital) and pay TV. The HMC also plays all your DVDs and digital movie files.

1. Using D1's own Electronic Programme Guide, recording is as simple as the click of a button. Programs can be scheduled in advance or set to automatically record whenever they are shown.
2. Never change a CD again by transferring your music collection to the HMC. Great for parties, connect it to your sound system, the HMC will play lists of your favourite songs along with visualisations on your TV.
3. Through the internet, the HMC will provide you with weather updates, access to thousands of radio stations globally and enable you to download the latest software releases from the comfort of your home.
4. The HMC's interface is so simple that all this (and more) is easily controlled with one remote control.



Home Media Centre Capacity Estimations Table

	HMC 80GB	HMC 160GB	HMC 250GB
Pictures	128,000 Images	256,000 Images	384,000 Images
Music	15,000 Songs	30,000 Songs	45,000 Songs
	1000 Albums	2000 Albums	3000 Albums
Videos	Over 350 Hours	Over 700 Hours	Over 1050 Hours
Recordings	Over 60 Hours	Over 120 Hours	Over 180 Hours
Pause Live TV	60 Minutes	120 Minutes	180 Minutes

Results may vary depending on file sizes, image quality and sound quality. Estimations provided as a guide only.

RENTSMART
\$19.05
PER WEEK*
WebCode DEV001

\$1699

RENTSMART
\$21.29
PER WEEK*
WebCode DEV002

\$1899

RENTSMART
\$23.53
PER WEEK*
WebCode DEV003

\$2099

Windows Media Centre

MSI Mega PC 865

This all-in-one digital entertainment platform combines Hi-Fi Stereo, DVD, digital music and all multi-media PC functions. You can play DVD/VCD movies, exciting PC games and view your media files and favorite photos.

Shuttle SB81P

The XPC SB81P destroys the myth that bigger PCs are faster. Designed for power-hungry users, this wicked-fast small form factor (SFF) computer delivers tower-crushing performance in one-third the space. Do everything faster, get the XPC SB81P today!



Mega PC 865 Model Displayed



Shuttle SB81P Model Displayed

Imagine accessing all your entertainment experiences on your PC - from a single remote.

Series	Mega PC 865	Shuttle SB81P
Processor	Intel Pentium 4 2.8Ghz	Intel Pentium 4 540 3.20Ghz
Memory (Ram)	512MB DDR 400	1GB Corsair DDR400
Video Card	Intel 865G (AGP 8X)	Intel Graphics Media Accelerator 900
Hard Drive	160Gb 7200rpm	160Gb 7200rpm
Optical Storage	16x +/- DVD-RW	16x +/- DVD-RW
Modem/Ethernet	56K / 10/100 / Wifi	10/100/1000
Operating System	MS Windows Media Centre 2005	MS Windows Media Centre 2005
USB Ports	Front Panel x 2 / Rear Panel x 2	Front Panel x 2 / Rear Panel x 2
Firewire	Front Panel x 2	Front Panel x 1 / Rear Panel x 1
Audio	6 Channel & Optical SPDIF Ports	7.1 Channel & Optical SPDIF Ports
Card Reader	6 in 1 Card Reader	6 in 1 Card Reader
Warranty	1 Year Pickup And Drop Service	2 Year Onsite

PRICE MAY DROP!
Call or visit
www.csw.com.au
for best price

\$1599
RENTSMART
\$17.92
PER WEEK*
WebCode MS10004

\$2200
RENTSMART
\$22.75
PER WEEK*
WebCode ALT2000

Index of Hardware Manufacturers

Accad	30
Al Tech	33
Altex Lansing	36
Apacer	21
Apple	18, 19
Aren	33, 34
Banksia	15
Belkin	16, 21, 26, 32, 60, 62
Canon	22, 26, 27, 38
Canopus	25
Century CD	20
Cerence	5
Citizen	11
Cleansafe	13
Comsol	31
Connectland	5
CopySmart	20
Creative	17, 36
Datalogic	10
Dominator	12

Index of Software Manufacturers

Acti	48
Adobe	39
Autodesk	39
AvailaSoft	55
Books	38
Borland	48
Broderbund	58
Centennial Media	39, 40

Development One	2
Dicota	3
D-Link	17, 15
Dvico	24
Dymo	10
Epson	11, 14, 27, 28, 37
Exabyte	5
FSP	9
Fuji	23
Fujitsu	21
Griffin	9
Hauppauge	25
HIT Video Lab	56
Hot Drive	10
HP	4, 6, 8, 12, 14, 27, 28, 36
IBM	4, 6, 8
Ikus	15
Imation	35
Iomega	20, 21
I-Rocks	33, 34

Computer Associates	51
Corel	41
Cryptal	41
Dante	51
Day 3	44, 55
Disney	58
Firak	64
Games	59, 60, 61, 62, 63

Kensington	8, 30
Kodak	27
Konica Minolta	15, 23, 37
LaCie	19
Laser	16
Lexar	17, 21
Lexmark	15, 26, 37
Lian Li	33
Links	18
Logitech	6, 25, 29, 36, 60
Mastor	19, 21
Microsoft	4, 8, 29
MSI	2
Netcomm	20
Netgear	18
Nokia	4, 6, 8
O2	12
Olympus	23
PalmOne	12
Philips	13

Pinnacle	24
Pioneer	20
Planon	28
Plantronics	6
Playstation	61
Postbox	10
Posiflex	10, 11
Powercell	22
Pretec	21
PSC	10
Pulsar Evolution	5
Q Logic	5
Samsung	13
Sandisk	21, 22, 23
Seagate	21
Sennheiser	32
Sharp	11
Shintaro	16
Shuttle	2
Snap	5

SonicWall	13, 17, 21, 22
Sony	5
Star	11
Symbol	10
Syscan	28
Tandberg	5
Targus	9
Telextra	29
TermaLink	33
Toshiba	9
Viewmaster	7
VXA	5
Warcom	30
Welland	33
XFX	37
Xo Sound	25
Zebra	11

MYOB	45
Nero	56
NetObjects	51
Pinnacle	57
Quark	57
Quicken	46, 47
Scansoft	50

Sony	56
Steinberg	57
Sushini	39
Symantec	52, 53
Trend Micro	55
Ulead	57

Computer Associates	51
Corel	41
Cryptal	41
Dante	51
Day 3	44, 55
Disney	58
Firak	64
Games	59, 60, 61, 62, 63

IMSI	58
Individual Software	58
Jasc	41
Macromedia	40
Mannacore	23, 54, 55
McAfee	54
Microsoft	42, 43, 44
Mobile Messenger	51

MYOB	45
Nero	56
NetObjects	51
Pinnacle	57
Quark	57
Quicken	46, 47
Scansoft	50

Sony	56
Steinberg	57
Sushini	39
Symantec	52, 53
Trend Micro	55
Ulead	57

Computer Associates	51
Corel	41
Cryptal	41
Dante	51
Day 3	44, 55
Disney	58
Firak	64
Games	59, 60, 61, 62, 63

IMSI	58
Individual Software	58
Jasc	41
Macromedia	40
Mannacore	23, 54, 55
McAfee	54
Microsoft	42, 43, 44
Mobile Messenger	51

MYOB	45
Nero	56
NetObjects	51
Pinnacle	57
Quark	57
Quicken	46, 47
Scansoft	50

Sony	56
Steinberg	57
Sushini	39
Symantec	52, 53
Trend Micro	55
Ulead	57

Computer Associates	51
Corel	41
Cryptal	41
Dante	51
Day 3	44, 55
Disney	58
Firak	64
Games	59, 60, 61, 62, 63

IMSI	58
Individual Software	58
Jasc	41
Macromedia	40
Mannacore	23, 54, 55
McAfee	54
Microsoft	42, 43, 44
Mobile Messenger	51

MYOB	45
Nero	56
NetObjects	51
Pinnacle	57
Quark	57
Quicken	46, 47
Scansoft	50

Sony	56
Steinberg	57
Sushini	39
Symantec	52, 53
Trend Micro	55
Ulead	57

Computer Associates	51
Corel	41
Cryptal	41
Dante	51
Day 3	44, 55
Disney	58
Firak	64
Games	59, 60, 61, 62, 63

IMSI	58
Individual Software	58
Jasc	41
Macromedia	40
Mannacore	23, 54, 55
McAfee	54
Microsoft	42, 43, 44
Mobile Messenger	51

MYOB	45
Nero	56
NetObjects	51
Pinnacle	57
Quark	57
Quicken	46, 47
Scansoft	50

Sony	56
Steinberg	57
Sushini	39
Symantec	52, 53
Trend Micro	55
Ulead	57

Computer Associates	51
Corel	41
Cryptal	41
Dante	51
Day 3	44, 55
Disney	58
Firak	64
Games	59, 60, 61, 62, 63

IMSI	58
Individual Software	58
Jasc	41
Macromedia	40
Mannacore	23, 54, 55
McAfee	54
Microsoft	42, 43, 44
Mobile Messenger	51

MYOB	45
Nero	56
NetObjects	51
Pinnacle	57
Quark	57
Quicken	46, 47
Scansoft	50

Sony	56
Steinberg	57
Sushini	39
Symantec	52, 53
Trend Micro	55
Ulead	57

Computer Associates	51
Corel	41
Cryptal	41
Dante	51
Day 3	44, 55
Disney	58
Firak	64
Games	59, 60, 61, 62, 63

IMSI	58
Individual Software	58
Jasc	41
Macromedia	40
Mannacore	23, 54, 55
McAfee	54
Microsoft	42, 43, 44
Mobile Messenger	51

MYOB	45
Nero	56
NetObjects	51
Pinnacle	57
Quark	57
Quicken	46, 47
Scansoft	50

Sony	56
Steinberg	57
Sushini	39
Symantec	52, 53
Trend Micro	55
Ulead	57

Computer Associates	51
Corel	41
Cryptal	41
Dante	51
Day 3	44, 55
Disney	58
Firak	64
Games	59, 60, 61, 62, 63

IMSI	58
Individual Software	58
Jasc	41
Macromedia	40
Mannacore	23, 54, 55
McAfee	54
Microsoft	42, 43, 44
Mobile Messenger	51

MYOB	45
Nero	56
NetObjects	51
Pinnacle	57
Quark	57
Quicken	46, 47
Scansoft	50

Sony	56
Steinberg	57
Sushini	39
Symantec	52, 53
Trend Micro	55
Ulead	57

Computer Associates	51
Corel	41
Cryptal	41
Dante	51
Day 3	44, 55
Disney	58
Firak	64
Games	59, 60, 61, 62, 63

IMSI	58
Individual Software	58
Jasc	41
Macromedia	40
Mannacore	23, 54, 55
McAfee	54
Microsoft	42, 43, 44
Mobile Messenger	51

MYOB	45
Nero	56
NetObjects	51
Pinnacle	57
Quark	57
Quicken	46, 47
Scansoft	50

Sony	56
Steinberg	57
Sushini	39
Symantec	52, 53
Trend Micro	55
Ulead	57

Computer Associates	51
Corel	41
Cryptal	41
Dante	51
Day 3	44, 55
Disney	58
Firak	64
Games	59, 60, 61, 62, 63

IMSI	58
Individual Software	58
Jasc	41
Macromedia	40
Mannacore	23, 54, 55
McAfee	54
Microsoft	42, 43, 44
Mobile Messenger	51

MYOB	45
Nero	56
NetObjects	51
Pinnacle	57
Quark	57
Quicken	46, 47
Scansoft	50

Sony	56
Steinberg	57
Sushini	39
Symantec	52, 53
Trend Micro	55
Ulead	57

Computer Associates	51
Corel	41
Cryptal	41
Dante	51
Day 3	44, 55
Disney	58
Firak	64
Games	59, 60, 61, 62, 63

IMSI	58
Individual Software	58
Jasc	41
Macromedia	40
Mannacore	23, 54, 55
McAfee	54
Microsoft	42, 43, 44
Mobile Messenger	51

MYOB	45
Nero	56
NetObjects	51
Pinnacle	57
Quark	57
Quicken	46, 47
Scansoft	50

Sony	56
Steinberg	57
Sushini	39
Symantec	52, 53
Trend Micro	55
Ulead	57

Computer Associates	51
Corel	41
Cryptal	41
Dante	51
Day 3	44, 55
Disney	58
Firak	64
Games	59, 60, 61, 62, 63

IMSI	58
Individual Software	58
Jasc	41
Macromedia	40
Mannacore	23, 54, 55
McAfee	54
Microsoft	42, 43, 44
Mobile Messenger	51

MYOB	45
Nero	56
NetObjects	51
Pinnacle	57
Quark	57
Quicken	46, 47
Scansoft	50

Sony	56
Steinberg	57
Sushini	39
Symantec	52, 53
Trend Micro	55
Ulead	57

Computer Associates	51
Corel	41
Cryptal	41
Dante	51
Day 3	44, 55
Disney	58
Firak	64
Games	59, 60, 61, 62, 63

IMSI	58
Individual Software	58
Jasc	41
Macromedia	40
Mannacore	23, 54, 55
McAfee	54
Microsoft	42, 43, 44
Mobile Messenger	51

MYOB	45
Nero	56
NetObjects	51
Pinnacle	57
Quark	57
Quicken	46, 47
Scansoft	50

Sony	56
Steinberg	57
Sushini	39
Symantec	52, 53
Trend Micro	55
Ulead	57

Computer Associates	51
Corel	41
Cryptal	41
Dante	51
Day 3	44, 55
Disney	58
Firak	64
Games	59, 60, 61, 62, 63

IMSI	58
Individual Software	58
Jasc	41
Macromedia	40
Mannacore	23, 54, 55
McAfee	54
Microsoft	42, 43, 44
Mobile Messenger	51

MYOB	45
Nero	56



Microsoft Small Business 2003 Standard & 5 Client Licenses

Windows Small Business Server 2003 Standard Edition includes Windows Server 2003 and Exchange Server 2003 technology. Get the capabilities of a security-enhanced small-business network with storage, printing, collaboration, e-mail, Internet connectivity, support for mobile workers, and faxing.



\$1595

WebCode: MSS0840

Microsoft Exchange Server 2003 & 5 Client Licenses

Exchange 2003 is the Microsoft messaging and collaboration server designed to help your business communicate more effectively. Along with the rich client functionality provided by Microsoft Office Outlook® 2003, Exchange 2003 offers mobile, remote, and desktop e-mail access with state-of-the-art security and privacy.



\$1998

WebCode: MSS2081

Microsoft SQL Server 2000 Standard & 5 Client Licenses

Microsoft SQL Server 2000 Enterprise Edition is the complete database and analysis platform for rapidly delivering the next generation of scalable e-commerce, line-of-business and data warehousing solutions.



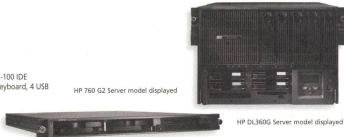
\$2299

WebCode: MSS4209

HP Servers

Series: DL140
Manufacturer #: 350534-B21
Processor: Intel Xeon 2.4GHz processor
Memory (Ram): 512MB PC2100 DDR
Hard Drive: 80 GB Ultra ATA/100
Optional Storage: Dual Broadcom 10/100/1000 NICs
Ethernet: Integrated Dual Channel Ultra ATA-100 IDE
Serial, Pointing Device, Graphics, Keyboard, 4 USB
Ports: 1 PCI-X (64/133) slot
Slot Totals: 1 Year
Warranty:

\$19.69 PER WEEK
\$1748
WebCode: C053420



HP 760 G2 Server model displayed

HP DL360G Server model displayed

Series:	DL360G3	DL 760 G2
Manufacturer #:	310590-011	322470-371
Processor:	Intel Xeon 3.06GHz, up to 2 supported	Xeon 3.06GHz Up to 2 Processors
Memory (Ram):	1024MB DDR DDR, Upgradable To 12GB	4 x Intel Xeon Processors MP 2.2GHz
Hard Drive:	None Installed	2GB ECC SDRAM, Upgradable To 64GB
HDD Controller:	Dual Channel Wide Ultra3 SCSI Adapter	None Installed
Optical Storage:	48x CD-ROM Drive	Smart Array Si plus Controller
Ethernet:	NC7781 PCI-X Gigabit NIC	Smart Array Si Controller Ultra 3 support
Ports:	Serial, Pointing Device, Graphics, Keyboard, 4 USB	HP NC7710 Dual-Port PCI-X 1000T GB Adapter
Slot Totals:	6 x 64-bit 100MHz PCI-X	Serial, Mouse, Graphics, Keyboard, Network RJ-45
Form Factor:	Rack 5U	PCI-X Slots 2 full length 64bit/100MHz PCI-X
Warranty:	3 Year	10 x 64-Bit 100MHz PCI-X, 1 x 64-Bit 33MHz PCI

PRICE MAY DROP!

Call or visit www.csw.com.au for best price

\$3519
\$34.94 PER WEEK
WebCode: C054384

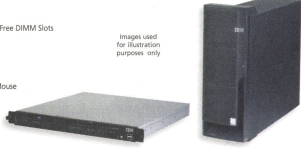
\$3904
\$38.49 PER WEEK
WebCode: C058371

\$35,372
\$290.03 PER WEEK
WebCode: C058166

IBM Servers

Series: IBM X206
Processor: Intel Pentium 4 3.0 GHz, 800 MHz FSB, 1MB Cache
Memory (Ram): 512MB 333MHz PC2700 DDR, Upgradable To 4GB, 3 Free DIMM Slots
Video Card: 16MB DDR ATI RADEON 7000M
Hard Drive: 36.4GB 10,000 rpm Ultra320 SCSI
Optical Storage: 48X Max CD-ROM, 3.5" 1.44MB Floppy Disc Drive
Ethernet: Integrated Gigabit Ethernet 10/100/1000Mbps
HDD Controller: Integrated Single Channel Ultra320 SCSI
Ports: 2 x Serial, 4 x USB, RJ45, Video, Parallel, Keyboard, Mouse
Slot Totals: 2 x 64-Bit PCI 66MHz, 3 x PCI 33 MHz
Dimensions: Height: 470mm Width: 265mm DEPTH: 483mm

\$19.23 PER WEEK
\$1716
WebCode: IB51696



Images used for illustration purposes only

Series:	IBM X206	IBM X336
Processor:	Intel Xeon 3.20GHz, 800MHz FSB	Intel Xeon 3.40GHz, 800MHz FSB
Memory (Ram):	512MB 400MHz PC23200 DDR2	1GB 400MHz PC3200 DDR2
Video Card:	16MB DDR ATI RADEON 7000M	1GB 400MHz PC3200 DDR2
Hard Drive:	None Installed	16MB DDR ATI RADEON 7000M
Optical Storage:	48X Max CD-ROM, 3.5" 1.44MB Disc Drive	8X Max DVD, 1.44MB Floppy Disc Drive
Ethernet:	Integrated Gigabit Ethernet 10/100/1000Mbps	Integrated Gigabit Ethernet 10/100/1000Mbps
HDD Controller:	Integrated Dual Channel Ultra320 SCSI	Integrated Dual Channel Ultra320 SCSI
Ports:	4 x USB 2.0, Parallel, RJ-45, Video, 2 x Serial	Video, 2 x RJ-45, 2 x Serial, 3 x USB 2.0, Parallel
Slot Totals:	1 x PCI Express, 1 x 64-Bit PCI-X 133MHz	2 x PCI Express, 1 x 64-Bit PCI-X 133MHz
Form Factor:	Tower	Tower
Warranty:	1 Year Parts and Labour On Site	3 Years Parts & Labour, On-site
Weight:	25.8kg	45.9kg

PRICE MAY DROP!

Call or visit www.csw.com.au for best price

\$2898
\$29.73 PER WEEK
WebCode: IB51819

\$3880
\$38.26 PER WEEK
WebCode: IB51843

\$5146
\$47.49 PER WEEK
WebCode: IB51782

Certance CD 40 - DDS-4 Internal Tape Drive

Certance-exclusive DDS-4 technology provides the most reliable and affordable tape data protection to the small and medium businesses.

- Includes Yosemite TapeWare XE backup software for Windows, Linux & NetWare
- Up to 40 GB capacity on a single cartridge
- Up to 20 GB/hr backup speed
- Backward compatible with DDS-3, DDS-2, and DDS-1 media



RENT/SMART \$11.15 PER WEEK \$995
WebCode CER0061

Certance LTO 2 External Tape Drive

Certance CL 400 LTO Ultrium 2 tape drives balance price with capacity/performance targeted at medium-to-large businesses.

- Capacity up to 400GB per cartridge
- Enterprise class performance up to 245GB/hr
- Backward-compatible with LTO-1 tape drives from all manufacturers



RENT/SMART \$65.83 PER WEEK \$6050
WebCode CER0020

Certance LTO 3 External Tape Drive

Certance CL 800 LTO Ultrium 3 solutions provide LTO-3 capacity and performance at LTO-2 price points.

- Complete solution including BakBone NetVault WorkGroup Edition backup software
- Up to 800 GB capacity on a single cartridge
- Up to 490 GB/hr backup speed
- Backward compatible with LTO-2 and LTO-1 media



RENT/SMART \$82.85 PER WEEK \$9880
WebCode CER0062

MGE Pulsar Evolution 2200VA

MGE UPS SYSTEMS meets your needs with Pulsar Evolution, a reliable, ultra-compact power protection solution. Designed for networking equipment, rack-optimised servers, traditional rack and tower servers and network storage systems.



\$1600
RENT/SMART \$17.94 PER WEEK
WebCode MGE0020

Snap Appliance 2200

Add a whisper-silent file server with RAID for a fraction of the cost of a traditional file server.

- 500GB, Simple, award-winning user interface for ease of management
- RAID 1 (mirroring), 0 (striping) or JBOD (Just a Bunch Of Disks)
- 100base-TX/10base-T Ethernet connectivity



500GB
RENT/SMART \$32.52 PER WEEK \$3170
WebCode SNA0030

Snap Appliance 4200

High-end features and an attractive price point drive down the cost of workgroup storage in your enterprise. No other storage server offers so much for so little.

- 2.0 GHz Intel processor
- Up to 3GB of Double Data Rate (DDR) memory
- Dual Gigabit Ethernet ports
- Integrated Computer Associates eTrust antivirus software
- Backup agent support for CA, VERITAS and Legato



640GB
RENT/SMART \$60.80 PER WEEK \$5427
WebCode SNA1000

Snap Appliance 4500

Industry-leading performance and capacity for departmental storage for your enterprise. No other 1U storage server matches its performance, capacity and feature set.

- 480GB, 640GB, 720GB, 1TB
- Ideal for: File sharing, near-line storage, on-line backup, remote office server.
- Every Snap Server 4500 can support up to two Snap Disk 10 expansion arrays for easy to manage, best-in-class storage expansion.



1TB
RENT/SMART \$76.78 PER WEEK \$8626
WebCode SNA0070

Tandberg SDLT320 External Drive Kit

The SDLT 320 represents a major advance in capacity and performance over todays biggest selling midrange tape drive, the DLT 8000.

- 320GB of compressed storage
- Kit includes: 1 SDLT Media, SCSI Cable & Terminator and Power Cord
- 3 Years Advanced Replacement Warranty



RENT/SMART \$44.75 PER WEEK \$4730
WebCode TAN0020

Tandberg 10 Slot Autoloader with LTO 2

The Tandberg LTO Autoloader brings you the productivity and security of an automated tape solution, as well as the proven reliability and scalability of LTO technology.

- Up to 4TB* storage capacity
- Up to 252GB*/hr transfer rate
- Removable magazine for easy storage management

*3-yr warranty



RENT/SMART \$95.18 PER WEEK \$11742
WebCode TAN0072

Tandberg M1500

Modular, Stackable Data Protection - The M1500 is an automated tape library that allows cross-product interoperability and true modular scalability.

- Scalable from one to 20 drives for a performance up to 4.3 TB/Hr
- Expands from 20 to 300 cartridges for native capacity up to 60 TByte
- 3 Years On-Site Next Business Day (NBD) Warranty



RENT/SMART \$132.75 PER WEEK \$16500
WebCode TAN0120

VXA-2 Packet Tape Drive External

VXA-2 is the second-generation drive based on the award winning VXA packet technology and is quickly becoming the standard for DDS replacement.

- 160 GB capacity
- 12 MB/sec transfer rate
- 4x more capacity than DDS-4



RENT/SMART \$20.74 PER WEEK \$1850
WebCode EXA0020

Exabyte Magnum 1x7 Tape Autoloader

The Magnum 1x7 Autoloader represents the best value for money in tape automation. With a LTO2 drive, 7 slots capacity and remote monitoring software, nothing else comes close when comparing TCO and ROI.

- 187GB/hr Speed
- 7 x 200GB cartridge slots offering 2.8TB* Storage
- 51mm, 2U rack size
- Bar code reader, rack kit and remote management standard
- Includes SCSI cable, SCSI Terminator and Ethernet Cables
- Optional 1 Yr and 3 Yr NBD On-site Warranty Available



RENT/SMART \$75 PER WEEK \$8426
WebCode EXA0002

SonicWALL TZ170 Security Platform

The SonicWALL TZ170 is a total security platform, delivering rock-solid network security, flexibility and reliability to home, small, remote and branch offices. This high performance stateful deep packet inspection firewall ships in multiple mode configurations and offers a choice between absolute ease of use for basic networks and ultimate flexibility for networks with more complex needs.



\$650
RENT/SMART \$7.29 PER WEEK
WebCode SWI0170



Logitech Cordless Optical Mouse - Black

Enjoy freedom from snagged and tangled mouse cords with the Logitech® Cordless Optical Mouse. Setup is a breeze – just plug the receiver into your PC or Mac and you'll be ready to go. The receiver can be hidden out of sight, and its reliable cordless technology works within a 6-foot range so you're free to move about your desk.


\$36

WebCode L063440

Plantronics Stereo PC Headset with Microphone.

This headset is equipped with convenient inline volume and mute controls and a quickadjust microphone boom for correct placement. Noise cancelling microphone has superior speech recognition for internet chat/telephony and video conferencing.


\$49

WebCode PT50001

Connectland Mini 2.1CH USB Speakers

The Connectland Mini 2.1CH USB Speakers is an innovative way to boost the sound and multimedia capabilities of your notebook. Compact Design - a compact speaker system that you can easily carry along with your laptop. High Quality Sound - newly developed built-in class D, 1 bit digital amplifier outputs clear digital sound.


\$49

WebCode CL00001

HP Desktops

Series: DX 2000 MT
Manufacturer #: PK861PA
Processor: Intel Celeron D 330 2.66GHz
Memory (Ram): 256MB PC3200 DDR
Video Card: Intel Extreme Graphics 2
Hard Drive: 40GB ATA 100
Optical Storage: 48X CD-RW Drive, 1.44MB FDD
Modem/Ethernet: v.92 56K, 10/100
Keyboard: USB 2004 Standard Keyboard
Mouse: USB Scroll Mouse
Warranty: 3 Year Parts, 1 Year Labour

RENTSMART **\$8.42**
PER WEEK
WebCode COD1010 **\$751**

HP DX 6100 MT model displayed



HP DX 2000 MT model displayed



Series:	DX 6100 MT	DX 6100 MT	DX 6100 ST
Manufacturer #:	PQ945PA	PK056PA	PK869PA
Processor:	Intel Celeron D330 2.66GHz	Intel Pentium 4 520 2.8GHz	Intel Pentium 4 540 3.2GHz
Memory (Ram):	512MB PC3200 DDR	512MB PC3200 DDR	512MB PC3200 DDR
Video Card:	IntelMedia Accelerator 900	IntelMedia Accelerator 900	ATI Radeon X300SE PCIeexpress
Hard Drive:	80GB SATA	80GB SATA	80GB SATA
Optical Storage:	48X Combo, Floppy Drive	48X Combo, Floppy Drive	DVD+RW
Modem/Ethernet:	Optional Modem, 10/100/1000	Optional Modem, 10/100/1000	Optional Modem, 10/100/1000
Operating System:	Microsoft Windows XP Pro	Microsoft Windows XP Pro	Microsoft Windows XP Pro
Keyboard:	USB 2004 Standard Keyboard	USB 2004 Standard Keyboard	USB 2004 Standard Keyboard
Mouse:	USB Scroll Mouse	USB Scroll Mouse	USB Scroll Mouse
Warranty:	3 Year Parts, 1 Year Labour	3 Year Parts, 1 Year Labour	3 Year Parts, 1 Year Labour

PRICE MAY
DROP!
Call or visit
www.rentsmart.com.au
for best price

RENTSMART **\$913**
PER WEEK
WebCode COD1029 **\$10.23**
PER WEEK

RENTSMART **\$1203**
PER WEEK
WebCode COD1014 **\$13.48**
PER WEEK

RENTSMART **\$1445**
PER WEEK
WebCode COD1022 **\$16.20**
PER WEEK

IBM Desktops

Series: M50
Manufacturer #: 812811M
Processor: Intel Celeron D 335 2.80GHz
Memory (Ram): 512MB PC2700 DDR
Video Card: Intel Extreme Graphics 2
Hard Drive: 40GB ATA-100
Optical Storage: 48X CD-ROM Drive, 1.44MB FDD
Modem/Ethernet: IBM Preferred Pro Full size PS/2
Keyboard: IBM Optical Wheel Mouse
Warranty: 1 year parts and labour on-site

RENTSMART **\$11.68**
PER WEEK
WebCode IBD6890 **\$1042**

IBM M51 model displayed



IBM S51 SFF model displayed



Series:	AS1 Small Form Factor	S51 Small Form Factor	M51
Manufacturer #:	842514M	817231M	814435M
Processor:	Intel Pentium 4 530 3GHz	Intel Pentium 4 540 3.20GHz	Intel Pentium 4 540 3.20GHz
Memory (Ram):	256MB PC3200 DDR	512MB 400MHz PC3200 DDR	512MB PC3200 DDR
Video Card:	Intel Media Accelerator 900	Intel Media Accelerator 900	Intel Media Accelerator 900
Hard Drive:	40GB Serial ATA	40GB Serial ATA	40GB Serial ATA
Optical Storage:	Combo, 3.5" 1.44MB FDD	48X CD-ROM Drive, 1.44MB FDD	48X Max CD-ROM, 1.44MB FDD
Modem/Ethernet:	56K V.90, 10/100/1000	Optional Modem, 10/100/1000	Optional, 10/100/1000
Operating System:	Microsoft Win XP Home Edition	Microsoft Windows XP Pro	Microsoft Windows XP Pro
Keyboard:	IBM Preferred Pro Full size PS/2	IBM Preferred Pro Full size PS/2	IBM Preferred Pro Full size PS/2
Mouse:	USB Optical Wheel Mouse	USB Optical Wheel Mouse	USB Optical Wheel Mouse
Warranty:	1 year parts and labour on-site	3 Years On-Site Parts & Labour	3 Year Parts, 1 Year Labour

PRICE MAY
DROP!
Call or visit
www.rentsmart.com.au
for best price

RENTSMART **\$1090**
PER WEEK
WebCode IBD6868 **\$12.22**
PER WEEK

RENTSMART **\$1585**
PER WEEK
WebCode IBD6869 **\$17.77**
PER WEEK

RENTSMART **\$1589**
PER WEEK
WebCode IBD6857 **\$17.81**
PER WEEK

Viewmaster Advantage Business Systems
Solutions for business or local government

Slim desktop/power in silver/black with front USB2.0/Firewire/Audio.

Series:	Value - Mini Tower
Processor:	AMD Sempron™ Processor 3600+
Memory (Ram):	256MB PC-2700 DDR 333MHz
Monitor:	Viewmaster 17" Real Flat 0.25dp CRT
Video Card:	Integrated
Hard Drive:	40GB 7200rpm ATA-100
Optical Storage:	52X CDROM, 1.44MB Floppy
Ethernet:	10/100 LAN
Operating System:	MS Windows XP Home
Keyboard/Mouse:	Viewmaster Multimedia P52
Card Reader:	11 in 1 card reader
Warranty:	3 year Onsite Warranty

Image used
for illustration
purposes only

RENTSMART \$11.20 PER WEEK* \$999
WebCode HAL0010

Series:	SOHO - Mid Tower	Business - Slim Line	Performance - Mid Tower
Processor:	AMD Athlon™ 64 Processor 3000+	AMD Athlon™ 64 Processor 3000+	AMD Athlon™ 64 Processor 3000+
Memory (Ram):	512MB PC-3200 DDR 400MHz	512MB PC-3200 DDR 400MHz	512MB PC-3200 DDR 400MHz
Monitor:	Viewmaster 17" Real Flat 0.25dp CRT	Viewmaster 15" LCD with Speakers	Viewmaster 17" LCD with Speakers
Video Card:	Integrated	Integrated	GeForce 6600 128MB DVI TV-out
Hard Drive:	80GB 7200rpm SATA	80GB 7200rpm SATA	80GB 7200rpm SATA
Optical Storage:	16X DVD Combo, 1.44MB Floppy	16X DVD Combo, 1.44MB Floppy	16X DVD Writer, 1.44MB Floppy
Ethernet:	10/100 LAN	10/100 LAN	10/100/1000 LAN
Operating System:	MS Windows XP Home	MS Windows XP Professional	MS Windows XP Professional
Keyboard/Mouse:	Viewmaster Multimedia P52	Viewmaster Multimedia P52	Viewmaster Multimedia P52
Card Reader:	11 in 1 card reader	Optional	11 in 1 card reader
Warranty:	3 year Onsite Warranty	3 year Onsite Warranty	3 year Onsite Warranty

PRICE MAY
DROP!
Call or visit
www.csw.com.au
for best price

\$1268
RENTSMART \$14.21 PER WEEK*
WebCode HAL0011

\$1475
RENTSMART \$16.53 PER WEEK*
WebCode HAL0012

\$1899
RENTSMART \$21.29 PER WEEK*
WebCode HAL0014



Dual 5450P model displayed

Viewmaster Dual Server Range

The Viewmaster Dual server range by Hallmark offers pedestal, rack mount, blade and Itanium 2 options. Storage options include support for SATA, SCSI, and fibre channel drives. With configurations ranging from a single processor through to support for dual or quad Intel® Xeon® Processors, up to 24GB RAM, redundant power supplies and redundant cooling fans.

Series:	Dual 5200P - Pedestal
Processor:	Intel P4-5303 0.6GHz/800MHz
Memory (Ram):	1GB DDR2 533MHz
Video Card:	Integrated
Hard Drive:	2 x 80GB SATA in RAID 0, 1
Optical Storage:	16X DVD Combo, 1.44MB Floppy
Ethernet:	10/100/1000 LAN
Operating System:	MS Windows 2003 Server
Others:	Optional tape backup
Keyboard/Mouse:	Viewmaster Multimedia P52
Warranty:	3 year Onsite Warranty



Rack Mounted Server displayed

RENTSMART \$36.03 PER WEEK* \$3630
WebCode HAL0015

Series:	Dual 5300P - Pedestal	Dual 5550R - Rack	Dual 5450P - Pedestal
Processor:	Intel Xeon-Active 3.0GHz 800FSB	Intel Xeon 3.0GHz 800FSB	Dual Intel Xeon 3.0GHz 800FSB
Memory (Ram):	1GB PC-2700 DDR 333MHz	1GB PC-2700 DDR 333MHz	1GB PC-2700 DDR 333MHz
Video Card:	Integrated	Integrated	Integrated
Hard Drive:	2 x 80GB SATA in RAID 0, 1	3 x 36GB SCSI	3 x 36GB SCSI
Optical Storage:	16X DVD Combo, 1.44MB Floppy	DVD Combo	16X DVD Combo, 1.44MB Floppy
Ethernet:	10/100/1000 LAN	10/100/1000 LAN	10/100/1000 LAN
Operating System:	MS Windows 2003 Server	MS Windows 2003 Server	MS Windows 2003 Server
Others:	Optional Second Processor	Redundant Power/Hot Swap Drives/ RAID 5	Redundant Power/Hot Swap Drives/ RAID 5
Keyboard/Mouse:	Viewmaster Multimedia P52	Viewmaster Multimedia P52	Viewmaster Multimedia P52
Warranty:	3 year Onsite Warranty	3 year Onsite Warranty	3 year Onsite Warranty

PRICE MAY
DROP!
Call or visit
www.csw.com.au
for best price

\$3960
RENTSMART \$39.05 PER WEEK*
WebCode HAL0016

\$6380
RENTSMART \$58.88 PER WEEK*
WebCode HAL0018

\$7480
RENTSMART \$66.58 PER WEEK*
WebCode HAL0017

ALL VIEWMASTER LCD MONITORS COME WITH A 3-YEAR AUSTRALIA WIDE ONSITE WARRANTY AND 30 DAYS ZERO DEAD PIXEL POLICY.

Viewmaster 15" Silver/Black LCD With Speakers
MLV1505SK
(Available in Beige)

- Viewing Angle (H)150° (V)120° (CR)5:1
- Contrast Ratio 350:1
- Brightness 250cd/m2
- Response Time 30ms
- Resolution 1024x768



\$320

Websearch Code HAL0019

Viewmaster 17" Silver/Black LCD Monitor with Speakers
MLV5575BK
(Available in Beige)

- Viewing Angle (H)75° (V)75° 60° (CR)5:10
- Contrast Ratio 450:1
- Brightness 260cd/m2
- Response Time 16ms
- Resolution 1280x1024



\$399

Websearch Code HAL0020

Viewmaster 19" Silver/Black LCD Monitor
MLV9985BK
(Available in Beige)

- Viewing Angle (H)85° (V)85° 60° (CR)5:10
- Contrast Ratio 500:1
- Brightness 250cd/m2
- Response Time 25ms
- Resolution 1280x1024



\$595

Websearch Code HAL0021

Computer Systems

Purchase Office 2003 on your new PC - It's Cheaper!

Buy Office 2003 with a new PC and SAVE approximately 55% off the RRP of full commercial versions! Call 1300 658 600 for more details on purchasing Office 2003 Edition with your new PC. (OEM 2003 versions)



Kensington Security Notebook ComboSaver

- No keys to lose - one piece design is easy to use.
- Attaches to the built-in Kensington security slot found on 95% of all notebook computers.
- Strong, six-foot cable is an effective physical and visual deterrent to theft.
- Cable securely anchors computer to any immovable object.



\$60

WebCode KEN0030

Kensington Security Notebook Microsaver Slim

- Your first line defence against slim notebook computer theft.
- Strongest lock and cable on the market.
- Patented T-bar design engages the maximum surface area possible in the Kensington security slot.
- Slimmer lock and sleek cable designed especially for slim notebook computers.
- Cable Length - 180cm



\$74

WebCode TOS2804

HP Notebooks

Series: NX9040
Manufacturer #: PK7009A
Processor: Intel Celeron M 330 1.4GHz
Memory (Ram): 256MB 266MHz DDR
Video Card: Intel Extreme Graphics 2
Hard Drive: 40GB 4200rpm
Optical Storage: Combo Drive, 1.44MB Floppy
Display: 15" XGA
Modem/Ethernet: 56K V.90, 10/100
Dimensions (WxDxH): 32.91 x 27.22cm x 4.1cm

RENTSMART **\$16.74**
PER WEEK **\$1493**
WebCode CON0952

HP Compaq Tablet PC TC1100 model displayed



HP Compaq nx7010 business notebook model displayed

Series:	NX5000	NX7010	TC1100
Manufacturer #:	PQ804PA	PQ803PA	PV130PA
Processor:	Intel Centrino M 735 1.7GHz	Intel Centrino M 745 1.8GHz	Mobile Intel Pentium M 1.1GHz
Memory (Ram):	512MB 266MHz DDR	512MB 333MHz DDR	512MB DDR 333MHz
Video Card:	Intel Extreme Graphics 2	ATI Mobility Radeon 9200	NVIDIA GeForce 4 Go 420
Hard Drive:	60GB 5400rpm	80GB 5400rpm	60GB 5400rpm
Optical Storage:	DVD+RW, 1.44MB Floppy	DVD+RW, 1.44MB Floppy	Optional
Display:	15.0" SXGA+	15.4" WXGA+	10.4" TFT
Modem/Ethernet:	56K V.90, 10/100	56K v.90, 10/100, WIFI	56K v.90, WIFI, Bluetooth
Pointing Device:	Touchpad	Touchpad	Removable keyboard & Pointstick
Operating System:	Microsoft Windows XP Pro	Microsoft Windows XP Pro	Windows XP Edition Tablet PC
Weight:	2.82KG	2.95KG	1.8KG
Dimensions (WxDxH):	32.60cm x 27.50cm x 3.67cm	35.56cm x 25.40cm x 3.45cm	27.4cm x 21.6cm x 2.0cm

PRICE MAY DROP!
Call or visit
www.csw.com.au
for best price

\$2590
RENTSMART **\$26.79**
PER WEEK **\$2180**
WebCode CON0955

\$3188
RENTSMART **\$32.70**
PER WEEK **\$2687**
WebCode CON0958

\$3658
RENTSMART **\$36.31**
PER WEEK **\$3034**
WebCode CON0959

IBM Notebooks

Series: G41
Manufacturer #: 28818PM
Processor: Intel Mobile Prescott 3.33GHz
Memory (Ram): 256MB 333MHz PC2700 DDR
Video Card: NVIDIA GeForce FX Go5200
Hard Drive: 40GB ATA-100
Optical Storage: CD-RW/DVD-ROM Combo
Display: 15" Backlit TFT
Modem/Ethernet: 56K V.92, 10/100/1000, WIFI
Dimensions (WxDxH): 32.9cm x 28.2cm x 50.9mm

RENTSMART **\$24.44**
PER WEEK **\$2180**
WebCode IBT4798

IBM R51 model displayed



IBM X40 model displayed

Series:	X40	T42	R51
Manufacturer #:	23865FM	2378JZM	2887GUM
Processor:	Intel Pentium M 1.30GHz	Intel Pentium M 725 1.60GHz	Intel Pentium M 725 1.60GHz
Memory (Ram):	256MB 333MHz PC2700 DDR	256MB 333MHz PC2700 DDR	512MB 333MHz PC2700 DDR
Video Card:	Intel Extreme Graphics 2	ATI Mobility Radeon 7500	Intel Extreme Graphics 2
Hard Drive:	40GB ATA-100	40GB ATA-100	60GB ATA-100
Optical Storage:	Optional	CD-RW/DVD-ROM Combo	8X Max DVD/RW
Display:	12.1" Backlit TFT	14.1" Backlit TFT	15" Backlit TFT
Modem/Ethernet:	56K V.92, Intel Wifi 2200BG	56K V.92, Intel Wifi 2200BG	56K V.92, Intel Wifi 2200BG
Pointing Device:	TrackPoint	IBM ThinkPad UltraNav	IBM ThinkPad UltraNav
Operating System:	Microsoft Windows XP Pro	Microsoft Windows XP Pro	Microsoft Windows XP Pro
Weight:	2.2kg	2.2kg	3kg
Dimensions (WxDxH):	26.8cm x 21.1cm x 23.8mm	31.1cm x 25.5cm x 26.6cm	33.2cm x 26.9cm x 37mm

PRICE MAY DROP!
Call or visit
www.csw.com.au
for best price

\$2546
RENTSMART **\$26.33**
PER WEEK **\$2180**
WebCode IBT4990

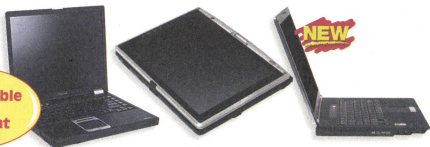
\$2598
RENTSMART **\$26.87**
PER WEEK **\$2259**
WebCode IBT4989

\$3034
RENTSMART **\$31.13**
PER WEEK **\$2604**
WebCode IBT4992

Toshiba Notebooks

Toshiba notebooks displayed for illustration purposes only

Ultra-portable and lightweight



Series:	Tetra M2	Protégé M200	Tetra A3
Manufacturer #:	PTM20A-4MP1K	PPM21A-02889	PTA30A-01W002
Processor:	Intel® Pentium M 725 Processor, 1.6GHz	Intel® Pentium M processor 1.6GHz	Intel® Celeron M 360, 1.4GHz
Memory (Ram):	512MB PC2700	512MB PC2700	256MB PC2700 DDR
Video Card:	64MB nVIDIA GeForce FX	nVIDIA GeForce FX Go5200 with 32MB	Intel® Graphics Media Accelerator 900
Hard Drive:	40GB 5400rpm	80GB 4200rpm	40GB 5400rpm
Optical Storage:	DVD SuperMulti	Optional	Combo Drive
Display:	14.1" TFT XGA	12.1" SXGA+	15" TFT XGA
Modem/Ethernet:	Modem, Gigabit, Wifi	V92 modem, 10/100, Wifi	V92 modem, 10/100
Pointing Device:	Touchpad & AccuPoint II	Touchpad	Touchpad
Operating System:	MS Windows XP Pro	Microsoft® Windows® XP Tablet PC Edition	MS Windows XP Pro
Warranty:	1 Year	3 Years	1 Year

PRICE MAY DROP!

Call or visit www.csw.com.au for best price

\$2844
RENTSMART
\$29.18 PER WEEK
WebCode TOS2626

\$4319
RENTSMART
\$42.59 PER WEEK
WebCode TOS3506

\$1686
RENTSMART
\$18.90 PER WEEK
WebCode TOS2550

Toshiba Notebooks

Toshiba notebooks displayed for illustration purposes only



Mobility and power without compromise.

Series:	Tetra A3	Tetra A3	Tetra A4 Widescreen
Manufacturer #:	PT30A-01X002	PTA30A-01Y002	PTA40A-0FY004
Processor:	Intel® Celeron M 370 processor 1.5GHz	Intel® Pentium M 730 Processor, 1.6GHz	Intel® Pentium M 730 Processor, 1.6GHz
Memory (Ram):	512MB PC2700	512MB PC2700	512MB PC2700
Video Card:	Intel® Graphics Media Accelerator 900	Intel® Graphics Media Accelerator 900	Intel® Graphics Media Accelerator 900
Hard Drive:	40GB 5400rpm	60GB 4200rpm	60GB 4200rpm
Optical Storage:	DVD SuperMulti	DVD SuperMulti	DVD SuperMulti
Display:	15" TFT XGA	15" TFT XGA	15" TFT WXGA
Modem/Ethernet:	V92 modem, 10/100	V92 modem, 10/100, Wifi	V92 modem, 10/100, Wifi
Pointing Device:	Touchpad	Touchpad	Touchpad
Operating System:	MS Windows XP Pro	MS Windows XP Pro	MS Windows XP Pro
Warranty:	1 Year	1 Year	1 Year

PRICE MAY DROP!

Call or visit www.csw.com.au for best price

\$1999
RENTSMART
\$22.41 PER WEEK
WebCode TOS2551

\$2528
RENTSMART
\$26.15 PER WEEK
WebCode TOS2552

\$2844
RENTSMART
\$29.18 PER WEEK
WebCode TOS2553

TOSHIBA

Computer Systems

Griffin iCurve Invisible Laptop Stand

The iCurve laptop stand makes using a laptop computer on your desktop much more comfortable in three ways. It raises the laptop screen to eye level height. It frees up desktop space for a separate keyboard and mouse. And the iCurve significantly increases airflow - keeping your hot new laptop running nice and cool.



\$77

Websearch Code GR0001

Universal Notebook Power Supply

- Compatible with 19V input
- Notebooks up to a current of 4.74A, 90W
- AC input: 100-240V, 1.6A, 50/60Hz
- Compatible with 19V input notebooks, up to a current of 4.74A, 90W maximum
- EDC output type for maximum compatibility
- Complete circuit protection
- High quality assurance
- Patented input fuse protection

120 watt (ANY0070) \$77



\$77

Websearch Code ANY0101

Targus New York Notebook Case

Includes a padded section for your notebook's protection that can fit notebooks up to 13.4", a zip-down workstation with storage for business cards, media, pens, pencils and more. Also included are a removable mesh accessory pouch, removable CD/DVD sleeves that hold 8 discs and a detachable mobile phone case.



\$63

Websearch Code TAR4144

RENTSMART
Because buying isn't

SEE PAGE 3 FOR DETAILS

estore.com.au



csw.com.au

Dymo LabelWriter LW310 USB

The most affordable label printer currently on the market. Suitable for dozens of business, home & office applications such as envelopes, stock, file folders and shelf labels. Direct thermal technology eliminates toner, ink and ribbon costs. Print width 40mm



\$143

WebCode DYM0002

Dymo LabelWriter 320

The most versatile label printer for any office. Prints labels up to 56 mm wide for envelopes, packages, file folders, disks, videotapes, name badges and much more. Improved with twice the print quality and 30% faster print speed. Use on USB port. Windows or Mac.



\$286

WebCode DYM0001

Dymo LabelWriter LW330 Turbo, USB & Serial

The fastest label printer available with outstanding print quality and just 2 seconds per label. Direct thermal technology eliminates toner, ink and ribbon costs. Prints fonts, barcodes, graphics and photos. Print Width: 56mm



\$319

WebCode DYM0003

POSIFLEX TP-6015 "JIVA PL" TOUCHSCREEN TERMINAL

To help you power up your sales, the all-in-one Touch-Terminal System, with integrated processing and inbuilt UPS battery, is ideal for mission-critical POS environments such as restaurants, pubs, clubs, supermarkets or retail store applications.

- 15.1" screen
- Celeron 1.2 GHz system, 128MB RAM, 20 GB HDD
- Built-in UPS battery back-up
- LAN 10/100



\$2750

WebCode POS0013

PSC F4220 Ruggedised Hand Held Terminal

Finally a reasonably-priced ruggedised hand-held PDA running Windows CE.NET

- PSC Falcon 4220-0000
- Windows CE.NET 4.2
- Open architecture
- CF slot
- IP54 sealed
- 17 button keypad
- 4-Way navigation
- Transflective TFT touch screen
- Sunlight Readable (outdoor use)
- Includes USB cable
- Optional scanner



\$1299

WebCode PSC0004

POSIFLEX CD-2860 BARCODE SCANNER

The CD2860 contact touch barcode reader has a simple cable configuration. Plug into your PC and you can touch & read barcodes instantly.

- 80mm reading aperture
- 0-300mm scanning distance
- Auto discrimination
- Beeper & LED Indicator
- Includes bench stand



\$165

WebCode PIS0000

POSBOX TS315B TOUCH SCREEN

The PosBox is a heavy-duty touch monitor that's "designed to be touched". Ideal for POS hospitality or retail applications or POI (Point of Information) kiosks.

- Heavy-duty construction
- Flat panel TFT touch screen
- 15.1" screen



\$990

WebCode POS1000

CAPTRA/SYMBOL PPT8800 MOBILE COMPUTING BUNDLE

The ultimate mobile store, with power hand-held computer and easy-to-use mobile, sales, ordering and inventory software. Run your business from the palm of your hand using Captra!

- Designed for integration with QuickBooks Accounting
- PPT8800-PPC. Microsoft Windows Mobile 2003 software for Pocket PC.
- Small and lightweight - (including battery): 300g



\$2995

WebCode SYM0010

POSIFLEX CD-3830 BARCODE SCANNER SERIES

With enhanced performance this long-distance barcode reader has a simple cable configuration. Simply plug into your PC and make barcode reading fast and efficient.

- Ergonomic and lightweight design
- 0-300mm scanning distance
- Auto discrimination & manual trigger
- Beeper & LED indicator
- 1.7 metre drop tested
- Includes upright hands-free stand (Beige only)



\$209

WebCode PIS0001

POSIFLEX Hardware Bundle

You can turn a standard PC into a POS Computerised Cash Register when you buy a POSIFLEX hardware bundle. Simply "plug and play". Includes Posiflex PS56000 Dot-matrix printer, CR4100 Cash Drawer & CD2860 hand Scanner.



ideal when using Quicken Software.

\$627

WebCode POS0002

PSC VS800 OMNI Directional Bench Scanner

Compact Design, Advanced visible laser scanner system, 20cm scanning depth of field, wide scan area, high first pass read rate, scans a variety of barcodes, includes power supply and cable.



\$496

WebCode PSC0006

DATALOGIC GRYPHON D100 HAND HELD BARCODE SCANNER

The Gryphon scanner is Australia's leading hand-held barcode scanner with "green dot" guiding light for accurate "aim and scan" technology.

- Puzzle solver technology
- 270 scans per second
- Reading distance over 30cm
- Withstands repeated drops from 1.8 m onto a concrete surface



\$352

WebCode DAT2000

ZEBRA LP2844 THERMAL BARCODE LABEL PRINTER

The LP2844 is a professional Barcode Label Printer for multiple authoring and printing of labels for Manufacturing, Pharmacy, Warehouse or Retail Applications in a wide variety of label sizes.

- Multiple interface parallel, serial & USB interface
- Maximum print speed of 102mm per second
- Maximum print width of 104mm, 203dpi (8 Dots/mm)
- EPL 512 Kb Flash Memory 256 Kb SRAM Image Buffer Memory
- Direct thermal printing



WebCode VAN0007

\$627

POSIFLEX PP-5600 DOT MATRIX RECEIPT PRINTER

This low-cost Dot Matrix Receipt Printer allows for rapid speed printing with up to three duplicate copies for each receipt issued.

- Tear off cutter blade
- Approx 3.5 lines per sec.
- 20KB input buffer
- Power supply and data cable included
- ESC/POS command compatible



WebCode POS0019

\$352

EPSON TMT88 THERMAL RECEIPT PRINTER

"Plug and play" high-speed Thermal Receipt Printer with clam shell "drop and load" design will work with most POS software applications.

- High-speed up to 150mm per sec
- Auto paper cutter
- Drop & load paper loading
- Prints a wide range of barcode symbologies
- Flash ROM for logo
- Includes Power Supply & Data Cable



WebCode EPS0011

\$660

SHARP XE-A101 CASH REGISTER

For basic retail environments, with 4 departments, 5 - 8 additional shift departments, 50 price look up's, inbuilt single station receipt printer with cash drawer for 3 notes and 5 coins.



WebCode SHA0002

\$295

POSIFLEX PP-7000 "AURA" THERMAL RECEIPT PRINTER

The Posiflex PP7000 Thermal Receipt Printer will give your store a professional image with receipts issued at high speed, Easy Drop and Load paper loading.

- High-speed - silent operation
- Up to 180mm per sec
- Auto paper cutter
- Stores graphic logo
- Power supply and data cable included
- ESC/POS command compatible



WebCode POS0018

\$533

CITIZEN IDP3550 DOT MATRIX RECEIPT PRINTER

Low running cost, heavy-duty dot matrix receipts with red and black colour printing for the toughest environments.

- Black & red printing
- 3.6 lines per second
- Auto paper loading
- 6K buffer
- Internal power supply



WebCode CIT1002

\$419

SHARP XE-A202 CASH REGISTER

For advanced retail environments, with 16 departments, 17 - 32 additional shift departments, 1200 price look ups, 20 cashier sign in codes, inbuilt single station THERMAL receipt printer with Alpha Numeric Printing, Electronic journal for transaction copy, standard PC communications and advanced drop loading of paper roll with cash drawer for 5 notes and 8 coins, (customised programming is an additional charge)



WebCode SHA0001

\$616

POSIFLEX CR-4100 CASH DRAWERS

Australia's most popular Cash Drawer which is receipt printer activated and designed to hold Australian currency with a tamper-proof designed casing and a removable cash tray for overnight security, it is security by design.

- Three position lock
- Cheque slot
- Supplied with 1 metre cable to connect to Posiflex, Epson, Star, Axiohm & current Citizen printers.
- Dimensions 428 (W) x 460 (D) x 100mm (H).



WebCode POS0008

\$199

STAR SP613 THERMAL RECEIPT PRINTER

A real Star, the SP613 is a compact size fast speed thermal receipt printer with stylish appearance and sophisticated ability to make your business work more effectively.

- Up to 100mm per second
- Drop & load paper loading
- 1MB Flash Memory
- Dual Colour Support
- Includes power supply
- Parallel (VAN0006) **\$579**



WebCode VAN0005

\$579

THERMAL RECEIPT PAPER ROLLS

We supply industry standard receipt dot printer paper for Thermal Printers, with an exclusive range of coloured Thermal paper, so stand out from your competitors with a noticeable coloured receipt

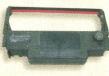
- P8080TH Thermal Rolls WHITE boxed in (24) (PRI0001) **\$55**
- P8080TH-BLUE Thermal Rolls BLUE boxed in (24) (PRI0002) **\$75**
- P8080TH-GREEN Thermal Rolls GREEN boxed in (24) (PRI0003) **\$75**
- P8080TH-ORANGE Thermal Rolls ORANGE boxed in (24) (PRI0004) **\$75**
- P8080TH-PINK Thermal Rolls PINK boxed in (24) (PRI0005) **\$75**
- P8080TH-YELLOW Thermal Rolls YELLOW boxed in (24) (PRI0006) **\$75**



POS RECEIPT PRINTER INK RIBBONS

We can supply Ink Ribbons and cassettes for most Cash Registers and POS Receipt Printers.

- Ink Cassette Epson ERC-30/34/38 Purple (EPS0012) **\$7.80**
- Ink Cassette Epson ERC-30/34/38 Black (EPS0013) **\$7.80**
- Ink Cassette Epson ERC-30/34/38 Black & Red (EPS0014) **\$7.80**
- Ink Cassette Star SP-300 Purple (STA0010) **\$7.80**
- Ink Cassette Star SP-300 Black (STA0011) **\$7.80**
- Ink Cassette Citizen DP-600 IR-61 Purple (CIT1010) **\$7.80**
- Ink Cassette Citizen DP-600 IR-61 Black (CIT1011) **\$7.80**
- Ink Cassette Citizen DP-600 IR-61 Black & Red (CIT1012) **\$7.80**



RENTSMART
Because buying isn't

SEE PAGE 3 FOR DETAILS

Destinator 3 Compact Flash Bundle

- Leadtek 9534 Compact Flash card
- GPS antenna-receiver
- Cigarette lighter adapter-charger and cables
- Award-winning Destinator 3 software
- Detailed street maps of all states and territories
- The most comprehensive points of interest (POI) database
- User manual and tutorial



\$715

WebCode DE50001

Destinator 3 Bluetooth Bundle

- Leadtek GPS 9537 Bluetooth GPS Receiver
- GG02 Wireless Bluetooth headset
- GPS antenna-receiver
- Cigarette lighter adapter-charger and cables
- Award-winning Destinator 3 software
- Detailed street maps of all states and territories
- The most comprehensive points of interest (POI) database
- User manual and tutorial



\$815

WebCode DE50002

Destinator 3 Serial Bundle

- Leadtek GPS 9532 Smart Antenna
- GPS antenna-receiver
- Cigarette lighter adapter-charger and cables
- Award-winning Destinator 3 software
- Detailed street maps of all states and territories
- The most comprehensive points of interest (POI) database
- User manual and tutorial



\$660

WebCode DE50003

Palm Handhelds



WebCode	Description	Memory	Screen	Processor	Os Version	Size	Weight	Price
A. USR5024	PalmOne ZIRE 21	8MB	160 x 160 Mono	TI (ARM) OMAP 311 126MHz	Palm OS 5.2.1	112 x 74 x 16mm	109g	\$159
B. USR5042	PalmOne Tungsten E	32MB	320 x 320 TFT	TI (ARM) OMAP 311 126MHz	Palm OS 5.2.1	115 x 75 x 12mm	131g	\$317
C. USR5002	PalmOne Zire 72	32MB	320 x 320 TFT	Intel PXA270 312MHz	Palm OS 5.2.8	116 x 75 x 17mm	136g	\$432
D. USR1035	PalmOne Tungsten TS	256MB	320 x 480 TFT	Intel XScale 416MHz	Palm OS 5.4	121 x 78 x 15mm	155g	\$535
E. USR5060	PalmOne TUNGSTEN C	64MB	320 x 320 TFT	Intel PXA255 400MHz	Palm OS 5.2.1	122 x 78 x 17mm	178g	\$609

HP iPAQ Pocket PCs



WebCode	Description	Memory	Screen	Processor	Os Version	Size	Weight	Price
A. CQ00117	HP iPAQ RZ2170	32MB	240 x 320 TFT	Samsung 53C2410	Win Mobile 2003 SE	114 x 70 x 13mm	120g	\$375
B. CQ00123	HP iPAQ HX2110	64MB	240 x 320 TFT	312 MHz Intel® PXA270	Win Mobile 2003 SE	119 x 76.6 x 16.3mm	164.4g	\$563
C. CQ00119	HP iPAQ R33417	89MB	240 x 320 TFT	Samsung 53C 2440	Win Mobile 2003 SE	114 x 71 x 16mm	147g	\$659
D. CQ00118	HP iPAQ R33715	152MB	240 x 320 TFT	Intel PXA270 624 MHz	Win Mobile 2003 SE	114 x 71 x 16mm	158g	\$756
E. CQ00120	HP iPAQ HX4700	135MB	240 x 320 TFT	Intel PXA270 624 MHz	Win Mobile 2003 SE	131 x 77 x 14.9mm	186g	\$943

O2 Xphone 2 Smartphone

Compact feature packed smartphone keeps user connected

- Polyphonic Speaker supporting playback of WAV, WMA files as ring tone
- Integrated VGA camera for image capture & camcorder function
- In Built Speakerphone
- Powered By Microsoft® Smartphone
- Mini SD memory card
- Size: 44.5(W) x 107.5(L) x 18(T) mm
- Display: 34.85mm x 43.56mm (176 x 220)
- Tri-band GSM 900/1800/1900 MHz
- Integrated VGA camera for image capture and camcorder
- Weight: Main unit with standard battery is approx. 102g
- MPEG4 (AVI) and Windows Media Video playback



RENTSMART **\$7.41**
PER WEEK
WebCode XDA0200 **\$661**

O2 XDAll Mini Integrated Pocket PC & GSM phone

Portable pad phone ideal for frequent travellers

- MS Win Mobile 2003 PocketPC Phone Edition
- Intel PXA 272 CPU, Clock speed: 416MHz
- Bluetooth 1.2 compliant
- 2.8" Transflective TFT LCD Screen
- 1.3 mega-pixel VGA camera
- Standby 180 hours, Talk time 4 - 5 hours
- 4 programmable buttons: Camera, Voice Recorder, Contact and Calendar
- Colour CMOS 1.3 mega-pixel camera
- Approx. 58 (W) x 108 (H) x 18.1 (T) mm
- Sensitive touch screen
- Weight with battery: 150g
- Support speakerphone operation
- Tri - band GSM / GPRS:



RENTSMART **\$10.86**
PER WEEK
WebCode XDA0200 **\$969**

O2 XDA IIS Integrated Pocket PC & GSM Phone

A stylish, fully integrated pocket pc and tri band gsm phone

- MS Win Mobile 2003 PocketPC Phone Edition
- Intel Xscale PXA 263 CPU, 400MHz
- 128MB RAM, 64 MB ROM
- 3.5" Transflective 65,536 colour LCD
- VGA (640x480 pixels) still and MPEG4 video
- Infrared IrDA Connectivity
- Bluetooth 1.1 compliant
- 802.11b Wireless Networking
- LED back light
- Standby 168 hours
- PDA usage 15 hours
- Talk time 4 hours
- Weight with battery: 210g
- IEEE 802.11b compliant



RENTSMART **\$16.47**
PER WEEK
WebCode XDA0100 **\$1469**

Philips CRT Monitors

WebCode	Product Description	Dot Pitch	Max. Res	Hor.Scan.Freq	Refresh	Price
PHP1722	17" 107E Beige (Also available in Black)	0.27mm	1280x1024	85	70KHz	\$162
PHP1754	17" 107S61/75 Real Flat Beige	0.25mm	1280 x 1024	85	71KHz	\$168
PHP1908	19" 109B CRT Beige	0.25mm	1920 x 1440	97	75KHz	\$333
PHP2201	21" 201B Beige	0.25mm	1920x1440	85	115KHz	\$687
PHP2212	22" 202P Flat Beige	0.24mm	2048x1536	85	130KHz	\$1050

Philips LCD Monitors

WebCode	Product Description	Pixel Pitch	Max. Res	Hor.Scan.Freq	Contrast	Price
PHP1603	15" 150B5CB Silver (Also available in Black)	0.297	1024x768	75	450:1	\$377
PHP1604	17" 170S5FG Beige (Also available in Black and Silver)	0.264	1280x1024	75	450:1	\$420
PHP1905	19" 190S5FB Black	0.294mm	1280 x 1024	82	500:1	\$680
PHP1611	19" 190P5EB Black (Built in Speakers)	0.294	1280x1024	75	700:1	\$890
PHP2218	20" 200P4VG Beige Black (Built in Speakers)	0.255	1600x1280	75	400:1	\$1608
PHP1612	23" 230W5V5 (Wide Screen)	0.258	1920x1200	85	500:1	\$2929
PHP1614	30" 300WNSQ5 Silver (Also available in Black)	0.5025	1280x768	60	500:1	\$3105

Samsung LCD Monitors

WebCode	Product Description	Pixel Pitch	Max. Res	Hor.Scan.Freq	Contrast	Price
SAM1536	15" S10N Thin Bezel SILVER	0.297mm	1024 x 768	61	450:1	\$393
SAM1537	15" S10N Thin Bezel Black	0.297mm	1024 x 768	61	450:1	\$393
SAM1741	17" 710V Simple Stand Black (Also Available in Silver)	0.264mm	1280 x 1024	81	500:1	\$377
SAM1745	17" 710N Thin Bezel Black (Also Available in Silver)	0.264mm	1280 x 1024	81	600:1	\$497
SAM1734	17" 172X Dual Hinge Silver	0.264mm	1280 x 1024	80	500:1	\$684
SAM1718	17" 710MP Multifunctional Silver TV Tuner	0.264mm	1280 x 1024	81	450:1	\$685
SAM1916	19" 910V Simple Stand Silver	0.294mm	1280 x 1024	81	800:1	\$687
SAM1917	19" 910T Thin Bezel Dual Hinge Beige Black (Also Available in Silver)	0.294mm	1280 x 1024	81	750:1	\$783
SAM0192	19" 193D Dual Hinge Stand Black (Also Available in Silver & Red)	0.294mm	1280 x 1024	81	800:1	\$1247
SAM2130	21" 213T Thin Bezel Silver	0.27mm	1600 x 1200	81	500:1	\$2117
SAM2430	24" 243T Wide Format Silver	0.27mm	1920 x 1200	81	500:1	\$4105
SAM3230	32" 323T Wide Format Silver	0.537mm	1280 x 768	70	500:1	\$4976
SAM4031	40" 403T Wide Format Silver	0.673mm	1280 x 768	70	600:1	\$8583

TFT Screen Clean

For use on all coated and non-coated Laptop, Notebook, TFT, Plasma, LCD, PDA, GPS, Mobile, basically any Screen or Monitor. Extensively tested by Users and Manufacturers, Laboratory and industry test have shown that Cleansafe will clean and protect all screen surfaces.

- Non-toxic, Environmentally friendly - Safe for children to use
- Anti-Static
- Optically pure
- Creates an Anti-Bacterial Coating



\$18

WebCode: CL0001

Sony Projector Multimedia VPES2

This Multimedia Entertainment Projector is equally powerful at home and in the boardroom alike. With 6 picture mode settings to optimise the best conditions for projection, ES2 can satisfy a variety of requirements. The 'Auto Intelligent Set Up' makes set up a breeze.



\$1693

WebCode: SHV9370

Sony LCD TV

This 26" (66cm) LCD WEGA TV features Sony's WEGA Engine processing technology whereby all signals are processed in the digital domain resulting in more sharper, natural, true to life images. Brushed Aluminium stylish design with HD Inputs and Memory Stick Slot for JPEG and MPEG Movie Playback make this the perfect addition to any modern home environment.



\$3130

WebCode: SHV9521

Nokia 6170

- Classic style with contemporary and reliable functions for convenient life management.
- Share the fun by sending and receiving text, images, videos and audio clips via MMS.
- Integrated VGA Camera with flash, digital zoom and self-timer, so you'll be able to take terrific pictures regardless of the conditions.



\$561

WebCode NMP6170

Nokia 7280

- Subtle and sleek Navi Spinner for a unique way to access features
- Slide it open to reveal the beauty of the mirror finish
- Voice-activated user interface for a more personal touch
- Cunningly hidden Integrated VGA camera for a touch of mystery
- Internal handsfree speaker to communicate in a whole new way
- Explore your flair for creativity and send your creations via MMS



\$1055

WebCode NMP7280

Nokia 7260

- Integrated VGA camera
- Integrated FM radio
- Voice recorder
- Flash message enabled
- Clothes and shoe size converter for the true fashionista
- Display a bold presence with downloadable themes



\$501

WebCode NMP7260

Epson EPL-6200N

- 1200 x 1200 dpi
- 20ppm black
- 8MB RAM
- 250 sheet tray
- Parallel/USB
- Ethernet ready
- Win/Mac

EPL-6200
RentSmart \$7.25pw
(EPL6200) **\$647**



RENTSMART **\$9.55**
PER WEEK **\$852**
WebCode EPL6201

Epson Colour AL-C1100

- 600 x 600 dpi
- 25ppm black, 5ppm colour
- 32MB RAM, Up to 256MB RAM
- 180 sheet tray, Optional 500 sheet tray
- New EPSON AcubeToner
- Parallel/USB
- Win/Mac



RENTSMART **\$7.72**
PER WEEK **\$689**
WebCode EPL1101

Epson Colour AL-C1900

- 600 x 600 dpi
- 16ppm black
- 4ppm colour
- 96MB RAM
- 200 sheet tray
- Parallel/USB
- Ethernet ready
- Win/Mac



RENTSMART **\$11.67**
PER WEEK **\$1041**
WebCode EPL1900

Epson AL-C3000N

- 600 x 600 dpi
- 24ppm colour & monochrome
- 64MB RAM
- 133 MHz
- 100 sheet multi-purpose tray
- USB (2.0 compatible) / Ethernet
- Win/Mac



RENTSMART **\$20.78**
PER WEEK **\$1854**
WebCode EPL0300

Epson EPL-N3000

- 600 x 600 dpi
- 34ppm black
- 64MB RAM
- 150 sheet multi-purpose tray
- Parallel/USB
- Win/Mac



RENTSMART **\$22.41**
PER WEEK **\$1999**
WebCode EPL3000

Epson Colour AL-C4100

- 600 x 600 dpi
- 24ppm Monochrome & Colour
- 64MB RAM
- 400 MHz RISC - dedicated ASIC
- 100 sheet multi-purpose tray
- Parallel/USB
- Win/Mac



RENTSMART **\$30.69**
PER WEEK **\$2992**
WebCode EPL4103

400 MHz RISC processor with dedicated ASIC processor.

HP LaserJet 1015

- 600 x 600 dpi
- 14ppm black
- 16MB RAM
- 150 sheet tray
- Parallel/USB
- Win/Mac

HP 1010 (HPL2460) **\$250**



RENTSMART **\$3.61**
PER WEEK **\$361**
WebCode HPL2462

HP LaserJet 1320

- Prints up to 22 ppm
- 1200 x 1200 dpi resolution
- 16MB expandable to 144MB
- Input tray - 250 sheets
- Up to 10,000 pages per month duty cycle
- 1 USB 2.0 port



RENTSMART **\$7.70**
PER WEEK **\$687**
WebCode HPL5927

HP Colour LaserJet 2550N

- 600 x 600 dpi
- 12ppm black, 4ppm colour
- 64MB RAM
- Up to 875 sheet input
- Ethernet ready
- Win/Mac



RENTSMART **\$14.86**
PER WEEK **\$1326**
WebCode HPL3104

HP LaserJet 4250

- 1200 x 1200 dpi
- 43 ppm black
- 48MB RAM
- 600 Sheet Input
- Parallel/USB
- Ethernet Optional
- Win/Mac

HP 42500TN
RentSmart \$31.62pw
(HPL5403) **\$3082**



RENTSMART **\$17.74**
PER WEEK **\$1583**
WebCode HPL5407

HP Colour LaserJet 3700

- 600 x 600 dpi
- 16ppm black & colour
- 64MB RAM
- Up to 350 sheet input
- Parallel/USB
- Win/Mac

HP 3700DN
RentSmart \$34.47pw
(HPL1323) **\$3473**



RENTSMART **\$25.80**
PER WEEK **\$2494**
WebCode HPL1321

HP Colour LaserJet 5500DN

- 600 x 600 dpi
- 21ppm black & colour
- 96MB RAM
- 600 sheet input
- A3 printing capacity
- Win



RENTSMART **\$73.12**
PER WEEK **\$8215**
WebCode HPL9075

Lexmark Laser Printer E232

- 600 X 600dpi
- 21ppm black
- 16MB RAM
- 250 sheet tray
- Parallel & USB 2.0
- Win/Mac



\$367

WebCode LEX9232

Lexmark Laser MFC Printer X215

- 600 X 600dpi
- 16ppm black
- Print, Scan, Copy, Fax
- 16MB RAM
- 250 sheet tray
- Parallel & USB 2.0
- Win



\$418

WebCode LEX9215

Lexmark Laser Printer T630N

- 1200 X 1200dpi
- 33ppm black
- 64MB RAM
- Up to 350 sheet input
- USB
- Win/Mac
- Ethernet Ready



\$18.63 PER WEEK*

\$1662

WebCode LEX9631

Lexmark Colour Laser Printer C760N

- 1200 X 1200dpi
- 24ppm black, 24ppm colour
- 128MB RAM
- 500 sheet input
- USB
- Greatest level of modularity & scalability
- Win/Mac
- Ethernet Ready



\$28.35 PER WEEK*

\$2763

WebCode LEX9760

Lexmark Colour Laser Printer C510N

- 2400IQ
- 30ppm black, 8ppm colour
- 128MB RAM
- 250 sheet input
- USB
- Win/Mac
- Ethernet Ready



C510N

\$20.28 PER WEEK*

\$1809

WebCode LEX9512

Lexmark Laser MFC Printer X630

- 1200 X 1200dpi
- 33ppm mono print & copy
- Print, Scan, Copy, Fax
- 32MB RAM
- 250 sheet input
- USB
- Win/Mac
- Ethernet Ready



\$34.49 PER WEEK*

\$3475

WebCode LEX9630

Konica Minolta Magicolor® 2400W

The Magicolor® 2400W from Konica Minolta is the affordable, desktop colour laser printer for home, small business, and executive use. It features fast, high-quality colour in a cost-saving, easy-to-use package.

Features:

- Desktop Colour Laser Printer
- 5ppm colour
- 20ppm black and white
- 2400 X 600 dpi
- USB
- Windows Print System

The affordable, desktop colour laser printer for home, small business, and executive use.

NEW



\$7.31 PER WEEK*

\$652

WebCode QMS5400

Also available with direct photo print in a networked version (QMS2430) **\$849**

Konica Minolta Magicolor® 5430

The Magicolor® 5430DL is a professional solution ideal for creatively communicating in colour! Konica Minolta's pioneer Polymerised toner combined with the high precision 2400dpi PRISMALASER technology allows you to produce business reports, charts, booklets, spreadsheets, flyers and stationery in stunning colour. From now on your business documents will be easily available, on demand and just-in-time at lower cost!

- 20ppm colour
- 20ppm black and white
- 2400 X 600dpi
- Network and USB
- Windows or MAC
- On-site warranty for 12 months



\$18.35 PER WEEK*

\$1637

WebCode QMS5430

Also available in 25ppm model (QMS5440) **\$2449**

Konica Minolta PagePro 1300W

Professional business documents at your fingertips. The stylish PagePro 1300W personal laser printer is a simple to use, low cost, reliable printing solution for users needing to print a multitude of professional business documents efficiently. Class leading 1200 X 1200 DPI print resolution makes printing professional quality memos, letters, reports, and presentations simple and convenient at your desktop.

- 16ppm black and white
- 1200 X 1200dpi
- Parallel and USB
- 3 Years Warranty including the drum



\$215

WebCode QMS1300

Banksia PMP20

The Banksia Digital Portable Multimedia Player is the ultimate in all-purpose digital multimedia wizardry. It lets you store full-length movies and masses of music files that you can play back through any available entertainment system. It offers a 20 Gigabyte hard drive, CF slot for added memory, 3.5" TFT screen, a pencil-like stylus and touch screen which also lets you access features such as the built-in calendar.



\$849

WebCode NET9391

Ikusi Digital Set Top Box

- Standard Definition Cinema-Quality Viewing 16:9 Widescreen Format.
- Dolby Digital (AC-3) 5.1 Channel Surround Sound Audio.
- Definitively Sharper Picture and Clearer Sound.
- Simple & Easy On-screen set up with full remote control.
- Free from interference and ghosting.



\$175

WebCode IKU0001

D-Link DP-311P Wireless Print Server

The DP-311P print server provides a single parallel printer port for connection to a parallel port printer, plus an 802.11b interface for wireless LAN connection. This device lets you cost-effectively share your parallel printer with a group of wireless users at home or in the office.



\$195

WebCode DLK1093

RENTSMART Because buying isn't

SEE PAGE 3 FOR DETAILS

USB Security Device

Protect your computer from prying eyes with the LASER Wireless PC Lock. The computer automatically enters 'Lock Mode' when the user is away from the computer by more than 2 metres. The computer automatically resumes normal operation when the user is back within range. Once the computer enters the 'Lock Mode', a password is required to use the computer if the transmitter is unavailable.



\$50

WebCode NET3001 (LAS0001)

Shintaro Internal Card Reader

Shintaro's latest Internal 3.5 inch USB 2.0 Memory Card Reader/Writer supports the largest brands of memory cards on the market including all the major brands. Easy and direct access at the front of your computer allows you to copy or drag and drop files, digital presentations, spreadsheets, and a whole lot more, to and from memory cards, your notebook, PC or Mac.



\$29

WebCode SH1001 (SH1001)

32 Disc CD Wallet

- Stores 32 CD's
- Safe/sleeve sleeves are durable and won't scratch your CDs
- Zipper closure
- Carry handle for convenience

96 disc CD Wallet (PER0002) \$12



\$8

WebCode PER0001

NetComm Super G Wireless Gateway (NB620W)

Whether at home or in a small office, the NB620W allows you to share your broadband service with wired or wireless users. It also lets you manage various digital devices such as printers, web cams and storage devices directly over the network without connecting them to your PC or laptop. All of this at speeds of up to 108Mbps thanks to the IEEE-enhanced 802.11g "Super-G" wireless standard.



\$274

WebCode NET3030

NetComm Wireless Firewall Router (NB5540)

Advanced 54Mbps wireless Cable or ADSL router with firewall & VPN capability combines an integrated 54Mbps wireless access point, router and 4 port 10/100Mbps switch.



\$155

WebCode NET3071 (NET3071)

Bundled with either PCMCIA (BP5540S43) or PCI Card (BP5540S42)

NetComm ADSL/ADSL2+ Modem Router (NB5)

The NB5 is the next generation ADSL Modem Router, supporting ADSL2, ADSL2+ and reach-extended ADSL2 (RE-ADSL2).

*Bonus Mini Web Cam - USB interface, 30 frame per second, high quality video and still image capture Mini Web Cam.



Bonus mini web cam

\$124

WebCode NET3079

NetComm Ultra Series 11g Wireless USB2.0 Adaptor (NP544)

The Ultra Series NP544 provides wireless capabilities to USB-enabled laptops or PCs at speeds of up to 54Mbps. Its compact antenna allows you to move freely around your office, home or wireless hotspot while data integrity is also protected from hackers with the latest wireless security standards (WEP and WPA).

BP544PACK2 - Savings Bundle 2 x BP544 (NET9355) \$140



\$76

WebCode NET9354

SOHO Wireless Networking Kit (BP5580S43)

The award winning NB580W ADSL Integrated Gateway allows you to share your high-speed Internet service with wired and/or wireless users. Also included are the Ultra Series 54Mbps PCMCIA Card and 10/100 Network Adaptor for the option of wired or wireless network connectivity.



Great value bundle

\$297

WebCode NET3004

NetComm 16 - Port Web Managed Switch (NP3016)

This 16-port solution utilizes the power of intelligent Store-and-Forward technology and feature 10/100/1000Mbps auto-sensing for each port and full-half-duplex auto-negotiation. Additional functions important for bandwidth intensive applications such as Priority Queues and VLANs are also supported to easily implement Quality of Service (QoS) and security without complex network configuration usually required for other managed switches.



\$804

WebCode NET9107

Belkin Pre-N Wireless Networking

Belkin's new Pre-N products allow you to share your broadband Internet connection further and faster than ever. They deliver up to 800%* greater wireless coverage and 600%* greater wireless speed than 802.11g networking devices resulting in exceptional data transfers. Featuring a revolutionary smart antenna technology (MIMO), Belkin Pre-N provides a breakthrough solution for larger homes or offices that have a wide area to cover or a complex environmental structure (obstacles) and want to run multimedia and high-bandwidth applications.

*As tested independently by the Tolly Group when using a Pre-N card with a Pre-N router.

Pre-N Product tested by PC Magazine (USA)

"In testing we found the Belkin's performance simply unparalleled. On our wireless testing obstacle course, simulating a real-world office environment, we measured throughput of 40.7 Mbps at 60 feet from the router (where 802.11g products typically deliver 15 Mbps). And at the 160-foot mark, where other products struggle to deliver 1 Mbps, the Belkin unit was still going strong at 8.9 Mbps. Overall, we were extremely impressed with the wireless performance, interface, and client utility."

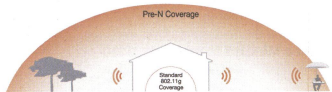
Pre-N Product as reviewed in the Cnet User Forums

"This is awesome - I have to share my internet with my neighbour so I have 4 access points - 2 in each house - All we need is a modem and the Belkin Pre-N router and all is working fine."

"Awesome. A company that finally delivers what consumers are really looking for - COVERAGE!!!! I am tired of dropped connections and poor signals."

Benefits of Belkin Pre-N products with True MIMO Technology

- Coverage: 800% greater range than standard 802.11g
- Speed: 600% greater speed than standard 802.11g
- Legacy Networks - Improved performance of customers existing wireless network with addition of a Pre-N product
- Dynamic Channel Selection - Improved resistance to interference from neighbouring Wi-Fi systems and other 2.4GHz devices
- Mixed Mode Lock - Does not drop to the lowest common networking speed in mixed-mode environments
- True 108 Speed - Does not cause interference with other channels like other "bad neighbour" products that use channel bonding.
- WIFI Certified - Seamless compatibility with 802.11b and 802.11g



NEW Technology

FASTER SPEEDS AND WIDER COVERAGE than 802.11g!



\$190

Pre-N Notebook Network Card WebCode BEL0069



\$350

Wireless Pre-N Router WebCode BEL0068

800% FASTER SPEEDS

WIFI b g CERTIFIED

D-Link DIS-101 Starter Pack

Home networking couldn't be simpler with D-Link's Installation Services! Connect up to 2 pcs (desktop and/or laptop), install 2 D-Link network adapters (one for each pc), connect a D-Link router to either a DSL or cable modem, configure file sharing, perform standard testing.



Starter Pack

\$145

WebCode DLK0134

D-Link DIS-102 Extras Pack

This package is ideal for both the home consumer and small office/home office (SOHO) markets. It is targeted at customers who are buying multiple home networking devices. Connect an additional pc (desktop and/or laptop), additional printer, D-Link wireless access point or router, D-Link internet video camera, videophone or a gaming console. Needs to be purchased in conjunction with a DIS-101 Starter Pack.



Extras Pack

\$42

WebCode DLK0135

D-Link DIS-103 Future Pack

Add additional devices after your home network has been installed. Connect an additional pc (desktop and/or laptop), printer, D-Link wireless access point, router, D-Link internet video camera, videophone or a gaming console.



Future Pack

\$124

WebCode DLK0136

D-Link 54Mbps Wireless Broadband Router (DI-624+)

The DI-624+ is a high-speed 2.4GHz 802.11g wireless broadband router with a built-in 4-port Fast Ethernet Switch. It incorporates high-speed wireless LAN with speeds of up to 54Mbps. This router lets you quickly share DSL or cable modem Internet connection, with or without the network wires.



DI-624 108Mbps

\$157

WebCode DLK5403

DI-624+ 54Mbps

\$126

WebCode DLK5407

D-Link 54Mbps Wireless PCI Adapter (DWL-C520+)

The DWL-C520+ wireless PCI card is an enhanced 802.11g high-performance, wireless card for desktop computers. This card supports high-speed wireless networking of up to 54Mbps, while providing seamless interoperability with all existing 802.11b and 802.11a wireless equipment.



DWL-C520 108Mbps

\$86

WebCode DLK5400

DWL-C520+ 54Mbps

\$64

WebCode DLK5404

D-Link 54Mbps Wireless USB Key (DWL-G122)

A high-performance 802.11g wireless LAN USB adapter that connects your computer to a high-speed wireless LAN. This adapter simply plugs into your computer through a fast USB 2.0 interface to provide up to 54Mbps wireless speed. This adapter is an ideal solution for notebook and laptop PC users needing a fast and standard mobile network connection.



DWL-G122 11Mbps

\$63

WebCode DLK0396

DWL-G122 54Mbps

\$85

WebCode DLK1153

D-Link Wireless PCMCIA Card (DWL-G650+)

This adapter supports high-speed wireless networking of up to 54Mbps, while providing seamless interoperability with all existing 802.11b and 802.11a wireless equipment. This adapter is the ideal wireless solution that offers an upgrade to a fast, new technology while protecting your past investments through interoperability with your current network equipment.



DWL-G650 108Mbps

\$82

WebCode DLK5401

DWL-G650+ 54Mbps

\$58

WebCode DLK5405

D-Link 54Mbps Wireless VPN Router with Print Server (DI-824VUP+)

A 802.11g wireless VPN router that combines broadband Internet sharing with robust VPN firewall security, print server and built-in 4-port switch for ready printer and workstation connection.



WebCode DLK9221

\$267

D-Link 8-Port 10/100Mbps Switch (DES-1008D)

D-Link DES-1008D is an unmanaged 10/100Mbps switch designed to enhance small workgroup performance while providing a high level of flexibility. Plug any port to either a 10Mbps or 100Mbps network to multiply bandwidths, boost response time and satisfy heavy load demands. 8-port 10/100Mbps Auto-sensing.



WebCode DLK0405

\$65

D-Link Router With Built-in Switch & USB Print Server (DI-704UP)

A versatile router that combines broadband built-in Internet sharing with robust firewall security, print server and built-in 4-port switch for ready printer and workstation connection. For home and SOHO, as well as for business users looking for advanced functions, network protection and policy-based content filtering.



WebCode DLK1115

\$111

D-Link USB/Ethernet ADSL Modem (DSL-302G)

Using ADSL technology, your Internet speeds can be up to 150 times faster than a 56K analog modem over a standard phone line. Two computers can simultaneously connect via the USB and Ethernet port to share its high-speed Internet connection. You can connect to its Ethernet port regardless of the operating system you are using, or connect to its USB port to allow easy installation to a USB equipped computer running Windows 98SE, Me, 2K, XP, or Mac OS 9 and OS X.



WebCode DLK5307

\$101

D-Link ADSL Modem with 54Mbps Wireless Router (DSL-G604T)

With a built-in ADSL interface, 802.11g high-speed wireless LAN, 4 10/100BASE-TX Ethernet switch ports and advanced router functions, this device gives your business a convenient and cost-effective way to install a secure, fast network with bottleneck-free link to the outside world. The DSL-G604T is an ADSL Router designed for home or office use.



WebCode DLK5109

\$177

Lexar 256MB MP3 Player

The Lexar Digital Music Player LDP-600 is a full-featured Digital Music player, which lets you listen and carry your favorite music wherever you go. It supports MP3 and WMA formats, includes an FM Radio with FM recording and Voice Recorder. It also includes an integrated FM transmitter so you can listen to your music files on any radio.



\$173

WebCode LAX1000

Sony 20GB HDD Walkman

Meet the World's Slimmest and Lightest 20GB Hard Disk Drive Walkman! This sleek little unit is the ultimate jukebox on the go, it can store up to 13,000 songs and will playback for up to 30 hours on a single charge! Even store and transport data files including Office Documents, Photo's and MPEG movies safely thanks to Sony's new G-Sensor Technology!



\$549

WebCode SONY3836

Creative MuVo2 MP3 Player

The NOMAD® MuVo2 is Creative's latest digital audio player based on simplicity and ease-of-use. It has all the essentials—large storage capacity (1.5GB) and USB 2.0 for super fast file transfer, yet operation is made easy and intuitive through the user friendly control buttons and illuminated display screen.



\$235

WebCode CRE0009

RENT SMART
Because buying isn't

SEE PAGE 3 FOR DETAILS

Apple iPod Photo 40GB

Your music and 25,000 photos in your pocket.

A delight for the ears. A feast for the eyes. Though it's no bigger than a pack of playing cards and weighs in at just 181 grams, iPod photo delivers a one-two sensory punch. The newest member of the iPod family, iPod Photo comes in two sizes: a 40GB model, and a capacious 60GB. Both feature a razor sharp LCD display that lets you see your photos in vivid color — 65,536 colours, to be exact. And with its built-in backlighting, you'll be able to admire those photos indoors or out.

60GB (APP0056) \$935



40GB
\$781

WebCode APP0055

Apple iPod Shuffle

Time to mix things up.

With up to 1GB of storage space, iPod shuffle happily accommodates files along with your music. Via iTunes, you tell iPod shuffle how much storage space to leave free for files and how much to Autofill with music. Then use iPod shuffle as a portable backup drive or to exchange files between multiple computers. Choose from pocket-size 512MB or 1GB models and surprise yourself. iPod shuffle weighs as little as a car key and makes a tureful fashion statement.

1GB (APP0062) \$225



512MB
\$148

WebCode APP0061

NETGEAR 108 Mbps Wireless Firewall Router (WG624)

- Super Easy! – Smart Wizard gets you up and running in fewer than 5 clicks
- Smart Wizard assisted firmware upgrade automatically checks for new features and upgrades your network in just 1 click
- Over 10 security & privacy features including Double Firewall (SPI & NAT)
- 802.11g standard compliance; interoperable with existing 802.11b and 802.11g networks



\$126

WebCode NTG7129

NETGEAR Gigabit PCI Adapter (GA311)

- 1000 Mbps performance, 10x faster than Fast Ethernet
- 10/100/1000 Mbps auto-sensing
- Smart Wizard install assistant to make setup quick and easy
- Smart Wizard performance dashboard to monitor your throughput
- Supports all major operating systems



\$31

WebCode NTG7154

NETGEAR 108 Mbps Wireless USB 2.0 Adapter (WG111T)

- 108 Mbps wireless Internet access - 10x the speed and 2x the range of 802.11b
- USB 2.0 powered - up to 40x faster than USB 1.1
- Easy setup via Smart Wizard Install Assistant
- Compact, pocket-sized design
- Works with all standard 802.11g and 802.11b wireless routers and access points



\$102

WebCode NTG7298

NETGEAR 5-port 10/100/1000 Mbps Gigabit Ethernet Switch (GS605)

- Five 10/100/1000 Mbps Ethernet ports
- Stylish Design: looks great flat or in provided stand
- Smart: honors 802.1p priority tags, great for VoIP applications
- Flexible: great for PC or Macintosh computers
- Silent: noise-free operation for a peaceful work environment



\$126

WebCode NTG7187

NETGEAR 108 Mbps Wireless PCI Adapter (WG311T)

- Up to 108 Mbps to your desktop PC with Super GTM technology (when used with the WG1624 router), 10x the speed of 802.11b
- New antenna technology allows greater range than ever before
- Setup is quick and easy with NETGEAR's Smart Wizard install assistant
- 802.11g standard compliance; interoperable with existing 802.11b and 802.11g networks



\$80

WebCode NTG7152

NETGEAR 54 Mbps Wireless ADSL Firewall Router (DG384G)

- Combines modem, router, switch, 802.11g access point, and SPI True Firewall
- Up to 5X faster than 802.11b
- True Firewall with Stateful Packet Inspection (SPI) & Intrusion Control, Denial of Service (DoS), Virtual Private Network (VPN) pass-through
- Smart Wizard detects/connects to your ISP
- Works with both 802.11g & 802.11b



\$167

WebCode NTG7127

Linksys Wireless-G ADSL Gateway (WAG54G)

- High-speed ADSL Modem gives you a fast, "Always On" connection to the Internet
- Connect your PCs via the built-in Router and 4-port Switch to jump start your Ethernet network and share the Internet throughout your household
- Built-in Wireless-G (802.11g) Access Point also lets you connect without running wires



\$209

WebCode LNK0075

Linksys Wireless-G Broadband Router (WRT54G)

- All-in-one Internet-sharing Router, 4-port Switch, and Wireless-G Access Point
- Wireless data rates up to 54Mbps—5 times faster than Wireless-B (802.11b)
- Shares a single Internet connection and other resources with Ethernet wired and Wireless-G clients
- Also interoperates with Wireless-B Devices



\$128

WebCode LNK3099

Linksys ADSL Gateway with 4 Port Switch (AG041)

- High-speed ADSL Modem gives you a fast, "Always On" connection to the Internet
- Connect your PCs via the built-in Router and 4-port Switch to jump start your Ethernet network and share the Internet throughout your household
- Advanced firewall and security features protect your PCs, your data, and your family



\$154

WebCode LNK0091

Linksys Network Storage Link (NSLU2)

Connect a USB Hard Drive or Memory Stick to the new Linksys Network Storage Link and everyone with permission can access the drive. Share company data across the network, or use it at home for a central library of pictures or music! You can even access the drive from the Internet when you're away!



\$160

WebCode LNK0030

Linksys 5-Port 10/100 Switch (SD205)

- Five autosensing 10/100 switched ports with auto MDI/MDI-X crossover detection
- Up to 200Mbps full duplex bandwidth at each port
- Compact size fits into any environment — includes wall-mount slots
- Address Learning and Aging, and Data Flow Control for enhanced transmission reliability



5 Port SD205
\$47

WebCode LNK0030

8 Port SD208
\$63

WebCode LNK0031

Linksys Wireless-G Notebook Adapter (WUSB4G)

- Connects your desktop or notebook to a wireless network at up to 54Mbps when used with a USB 2.0 port
- Easy, no-tools setup on any desktop or notebook computer with USB support
- Also compatible with Wireless-B networks (at 11Mbps) wireless communications are protected by up to 128-bit data encryption



\$81

WebCode LNK0051

LaCie Mobile drive USB2 "design by F.A.Porsche"

Specially designed for getting your files from point A to point B. Made with a durable exterior to withstand life on the go, this portable drive lets you safely travel with up to 80GB of personal information, including MP3s, audio tracks and photos.

Mobile 40GB USB2.0 (LAC0072) **\$253**
Mobile 60GB USB2.0 (LAC0753) **\$330**
USB2.0 and Firewire Available



80GB
WebCode LAC0073 **\$423**

LaCie DVD±R/RW 16x + Dual Layer DVD+R4x

Store nearly twice as much data as current DVD media - 8.5GB on a single-sided DVD disc. Save up to 16 hours of VHS video, 4 hours of high-quality MPEG-2 DVD video or up to 8.5GB of data, audio or images. Large-capacity, double layer DVD media (DVD+R9) is also ideal for backing up computer systems or archiving MP3 libraries on a single disc.

Firewire/USB (LAC0921) **\$333**



Internal
WebCode LAC0923 **\$154**

LaCie USB DVD±RW 16x + Dual Layer DVD+R4x "design by F.A.Porsche"

Conveniently compatible with DVD±R/RW and DVD±R/RW media, the LaCie DVD±RW Drive lets you choose the DVD format you'd like to use for your personal projects. Create personal DVD videos, share family photos, store thousands of MP3s and back up as much as 4.7GB of important information.



WebCode LAC0804 **\$243**

LaCie d2 External Hard Disks

LaCie d2 range is a professional, flexible system. Made of extruded aluminium and Zamak alloy, which are the same materials used in Formula 1 cars design for their unique features: robust, lightweight and fast cooling. Kensington cable lock and power lock for better security. Front power button and blue activity led, switches on/off with your computer. Supplied with drivers for Mac and PC. Drives can be used stacked horizontally or can be mounted in a 1U 19" rack (kit sold separately). All d2 external hard disks are 7200rpm.

160GB USB2.0 & Firewire & F800 (LAC0768) **\$326**
200GB USB2.0 & Firewire & F800 (LAC0769) **\$408**
250GB USB2.0 & Firewire & F800 (LAC0770) **\$440**
400GB USB2.0 & Firewire & F800 (LAC0029) **\$843**
500GB USB2.0 & Firewire & F800 (LAC0047) **\$803**
1000GB USB2.0 & Firewire & F800 (LAC0115) **\$1540**

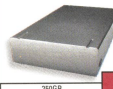


*F800 is a new FireWire interface doubling transfer rate up to 100MB/s of current FireWire interface. Requires specific F800 card to take advantage of the performance.

LaCie Drive USB2 "design by F.A.Porsche"

State-of-the-art design and awesome performance, with room to store up to 250GB. Built to be lightweight and durable, these drives can be easily moved for sharing and exchanging of files.

80GB 7200rpm USB2.0 (LAC0078) **\$204**
160GB 7200rpm USB2.0 (LAC0079) **\$262**



250GB
WebCode LAC0094 **\$317**

Apple iPod with Click Wheel 20GB

Incorporating the fabulous Apple Click Wheel that was first introduced on iPod mini. Offering up to 12 hours of battery life. Weighing in at just 158 grams. And getting slightly thinner with each new generation. iPod continues to define what a digital music player for Mac and Windows should be. Win/Mac

• 40GB (APP0023) **\$599**
• 60GB (APP0056) **\$935**



20GB
\$465
WebCode APP0022

Maxtor OneTouch II - Push button backup External HDD

We know it's not just data, it's your life. Save it. Store it. Back it up with a Maxtor drive. Choose a new Maxtor OneTouch II drive if you need easy backup and lots of space to hold your movies, photos and graphics. Just push the button and all your files are backed up in one simple step. Or select a Maxtor Personal Storage 3000 or 3100 drive if you need easy add-on capacity to hold your growing files.

The Maxtor OneTouch II - simple backup and storage with Maxtor DriveLock to protect the contents of your drive if lost or stolen. Maxtor pioneered the revolutionary "pushbutton" approach to data backup, and stays in the forefront with the new Maxtor OneTouch II external hard drive. With 300GB, there's ample room to store your videos, photos, graphics, music, and more in one convenient location! The drive features a simple Maxtor user-interface for drive management, security, and backup, a whisper-quiet 7200 RPM hard drive with 16MB cache and is equipped with both FireWire and USB 2.0 interfaces for easy connection.

Includes:

- External hard drive
- USB cable
- 6 to 6 pin FireWire/1394/LINK cable
- External AC power adapter
- Vertical stand
- Installation software CD
- Dantz® Restorespect® Express HD
- Maxtor OneTouch drivers
- Maxtor OneTouch utilities
- User's guide
- Maxtor limited warranty

**Ideal storage for photos, music, editing
video and creating high-end graphics**



200GB
WebCode MAX0045 **\$349**



250GB
WebCode MAX0055 **\$385**



300GB
WebCode MAX0062 **\$435**

Apple iPod Mini

Apple engineers squeezed all the best features of iPod into a case weighing just 3.6 ounces and smaller than any cell phone. iPod mini features an anodized aluminium case that resists stains and scratches. Like its (slightly) bigger brother, iPod mini gives you over 25 minutes of skip protection and lasts up to 8 hours on a single battery charge. So you won't pay a penalty for miniaturization. Win/Mac

Blue (APP0027) **\$369**
Gold (APP0028) **\$369**
Pink (APP0029) **\$369**
Silver (APP0024) **\$369**



Green
\$369
WebCode APP0025

CopySmart Blast DVD±R Duplicator

The CopySmartBlast DVD±R Towers make stand alone manual copying of DVDs and CDs easy and affordable. These DVD copier towers utilize a 120GB hard disk drive to copy from and feature a built-in controller. This model includes three 16x dual layer DVD recording drives.

FREE SPIN CD/DVD Title printer with every CopySmartBlast Duplicator



\$1716

WebCode: COP0003

Century CD Storage Unit

Century CD is the industry's first affordable, intelligent CD and DVD storage unit, providing the user with a 100 disk capacity per unit. Manages up to 127,000 disks from a single interface on your PC.



\$74

WebCode: GDS0001

Hot Drive 5.25" External Case

- Suitable for IDE CD-Rom, CDRW, DVDROM, DVD±R/RW & 3.5" Hard Drives
- Cooling Fan For Excellent Heat Dissipation
- Easy to Install
- USB 2.0 up to 480Mbps Transfer Rate
- Firewire up to 400Mbps Transfer Rate
- Supports Win 98SE/ME/2000XP & Mac OS 9.0 or later.



\$86

WebCode: HOT0004

Pioneer DVR-A09XL 16x DVD±R Dual Layer

The Pioneer DVR-A09XL is the industry's first DVD writer to support dual layer DVD recording at 6X (to verified 2X media). This enables recording of a full 8.5GB dual layer disc in around 20 minutes.

Features

Industry leading speeds of 16X for DVD±R and 6X for DVD±R dual layer. The DVR-A09XL records at 16X to firmware verified 8X DVD-R/R+ media and 6X to firmware verified 2X DVD±R dual layer media. RAM media can also be read.

Included Software

Ulead DVD MovieFactory 3.5 Suite Deluxe, DVD Workshop 2 SE DVD, VideoStudio 8 SE DVD (all including Dolby AC-3 audio encoding), DVD PictureShow 3 SE

Precision recording technology

Pioneer's exclusive performance enhancing features ensure high quality recording characteristics and low operational noise. Performance Adjusting Firmware: Automatically adjusts between Performance mode and Quiet mode. Achieves an ideal solution by lowering disc rotation for quieter drive performance during DVD Video and Audio CD playback, while speeding up for high performance when required.

Specifications

- 16X CAV Single Layer (to verified 8X media)
- 6X Dual Layer (to verified 2X media)
- 40X CAV CD-R
- 24X CD-RW



Beige

\$163

WebCode: PID0035



Black

\$163

WebCode: PID0035

Iomega® REV Drive

Iomega® REV™ drives are fast, low cost, efficient, reliable and more...

The Iomega® REV™ 35GB/90GB* drive is a revolutionary removable hard disk system which is more efficient and reliable than traditional tape systems, while providing portable, high-performance file storage. This is the world's first backup solution that combines the speed, reliability, and ease-of-use of a hard drive with the advantages of removability and low cost capacity expansion of tape; plus full system disaster recovery – all at a value only Iomega® can provide. Iomega® REV™ drives allow you to back up and restore up to 8 times faster than tape, access files in seconds with drag-and-drop, and secure your data with password protection. Includes Iomega® Automatic Backup Pro software for "set-it and forget-it" file backups, plus full system backup and fast disaster recovery with Symantec's Norton Ghost™ for REV Drive software.

Iomega® REV™ drives are the ideal solution for small and medium-sized businesses and SOHO users who need a fast and reliable back up system, as well as for desktop and large file users who need a cost-effective and versatile backup and portable storage system. Iomega®, the leader in removable storage solutions, is once again revolutionizing large-scale back ups by providing you the peace of mind that your data is protected and available.

- Back up and recover files up to 8 times faster than tape**.
- Retrieve files in seconds, versus minutes, with drag-and-drop (compared to linear access with tape drives).
- Proven hard disk technology for ultimate reliability.
- 90GB* compressed capacity to store and share large files, or back up an entire system on a single disk.
- Rigid disks offer virtually unlimited rewritability.
- Add capacity when you need it with cost-effective Iomega® REV™ disks.
- Iomega® Automatic Backup Pro and Norton Ghost™ for REV™ Drive software included.

- Iomega® Rev™ Media 35GB* 4 pack (IOM3057) **\$319**
- Iomega® Rev™ Media 35GB* Single Disk (IOM3029) **\$88**



*Compressed capacity assuming 2.6:1 data compression with "high" compression on Iomega Automatic Backup Pro software. Capacity may vary and is data and software dependent.

**Based on DDS-4 tape comparison

Iomega® and the stylized "i" logo are registered trademarks of Iomega® Corporation in the United States and/or other countries.

USB

\$530

WebCode: IOM2955

FireWire

\$530

WebCode: IOM3063

SanDisk Cruzer Micro

SanDisk Cruzer Micro is a small USB Flash Drive that connects to a computer's USB port. With capacities ranging from 128MB to 512MB, users can easily store their key documents, pictures, music and videoclips on a Cruzer Micro and transfer them to another computer with a USB port.

Micro Cruzer

256MB (SIM0121) **\$48**
512MB (SIM0688) **\$80**

Mini Cruzer

128MB (SIM0366) **\$29**
256MB (SIM0381) **\$49**
512MB (SIM0386) **\$85**
1GB (SIM0391) **\$145**



128MB
WebCode: SIM0600 **\$32**

SanDisk Titanium

The 512MB Cruzer Titanium is designed to meet the needs of business and power users who place a premium on high durability and fast data transfers. SanDisk Cruzer Titanium is perfect for storing and transporting documents, pictures, presentations and music - anytime, anywhere, and under any conditions.



512MB
WebCode: SIM0380 **\$115**

SanDisk Cruzer Micro MP3 Companion + 256MB Cruzer

SanDisk Cruzer Micro is a small USB Flash Drive that connects to a computer's USB port. The SanDisk Cruzer Micro MP3 Companion allows you to play MP3 files off your SanDisk Cruzer Micro USB Flash Drive. Just slot the Cruzer Micro into the MP3 Companion and hop to your favourite tunes!



Includes 256MB Cruzer Micro
WebCode: VME0004 **\$165**

Seagate Barracuda Hard Drives

- 7200 RPM desktop performance
- 350 Gs nonrotating shock. Protect drive from shock and vibration
- SoftLizard software
- SoftSonic FDB Motor
- 2MB cache buffer
- 120GB (SEA0017) **\$115**
- 160GB (SEA0007) **\$125**



80GB
WebCode: SEA0011 **\$90**

SanDisk MobileMate Card Reader SD+

SanDisk's unique MobileMate Readers are the smallest readers on the market, ideal for mobile phone users and all your photo travel needs. Flash memory cards can be plugged directly into the readers. No card adapters are required. Accepts SD, miniSD, MultiMediaCard, RS-MMC & TransFlash.

MobileMate Memory Sticks 4-in-1 Reader

Accepts Memory Stick, Memory Stick PRO, Memory Stick Duo & Memory Stick PRO Duo

(SAN0014) **\$32**



WebCode: SAN0013 **\$32**

SanDisk ImageMate 5-in-1 Card Reader/Writer

Transfer all your pictures with the touch of a button! SanDisk offers super-fast single slot card readers for a variety of popular flash memory cards. Available for all standard card formats.

Compact Flash Reader/Writer (SAN0016) **\$32**

ImageMate 12-in-1 Reader/Writer (SIM0160) **\$53**



WebCode: SAN0015 **\$32**

SanDisk Photo Album with Remote

The SanDisk Photo Album now makes it simple, convenient and affordable to view, store and share your favorite digital photos, video clips and music on your TV. No computer is required! Family and friends no longer have to crowd around a computer or your camera's LCD screen to view photos.



Stores images permanently on Compact Flash - ask about our range of CF cards!
WebCode: VME0005 **\$88**

Belkin USB2 Storage Device

Simply plug the Flash Drive into any USB port and it will be recognised as a removable drive. Each drive allows you to store data, copy, delete or move files between any notebook or desktop PC with ease.

256MB (BEL0122) **\$167**
512MB (BEL0123) **\$195**



128MB
WebCode: BEL0121 **\$100**

Imega Mini USB Drive

Comes complete with password software so only the user can access any of the important data that you may store on the drive. Being USB it requires no power or batteries.

256MB (IOM2110) **\$74**
512MB (IOM3310) **\$119**



128MB
WebCode: IOM2573 **\$46**

Sony Micro Vault USB 2.0 Storage Device

Simply plug directly into your computer's USB port, then transfer files as required. The drives features a storage capacity of 128MB along with Password Lock, AutoZip, PC Lock & Auto Login software.

256MB (SNV9639) **\$80**
512MB (SNV9640) **\$155**



128MB
WebCode: SNV9642 **\$64**



80GB
WebCode: MAX0051 **\$99**

Fujitsu DYNADISK 40GB

Fujitsu's New DYNADISK is a high speed USB aluminium case for 2.5" Hard Disk Drives. Extremely compact, this state of the art aluminium storage solution is ideal for your valuable data. The USB2.0 to IDE 2.5" DYNADISK hard drive external case is great as a mobile data solution for Laptop computers or PCs.



\$229
WebCode: FUJ0006

Apacer Handy Steno HT203

Handy Steno HT203 is the fastest USB flash drive in the world. Handy Steno HT203 with high capacity up to 4GB allows you save and load your data anytime and anywhere, like a movable mini-database. With high transmission speed, it's quite easy to load large-size files.

1GB (APA0020) **\$176**
2GB (APA0021) **\$309**
4GB (APA0022) **\$379**



512MB
WebCode: APA0019 **\$104**

Pretec iDisk

The Pretec iDisk Tiny is a slim and stylish USB Drive for your mass data storing, sharing and transporting. Simply plug the device into your computer's USB port and you are ready to copy and share files. The sleek style of iDisk Tiny will perfectly fit to your daily life, in the office or at home!

256MB (VBM1952) **\$63**
512MB (VBM1953) **\$113**



128MB
WebCode: VBM1951 **\$36**

Lexar JumpDrive

Rugged and durable, the JumpDrive Secure offers something else: peace of mind. The JumpDrive Secure comes loaded with software that lets you password-protect your data. If lost or stolen, you can rest assured that what you've saved there remains there with 256-bit AES encryption. With a fast USB 2.0 connection

512MB (LXA1013) **\$6**
1GB (LXA1014) **\$143**



256MB
WebCode: LXA1012 **\$48**

Canon

SONY

Secure Digital Cards

SanDisk Secure Digital Card

- 128MB (SMD0201) \$33
- 256MB (SMD0202) \$49
- 512MB (SMD0387) \$82
- 1GB (SMD0388) \$138

SanDisk Secure Digital Ultra

- 512MB (SMD0711) \$110
- 1GB (SMD5987) \$165



Memory Stick

Sony Memory Stick

- 64MB (SONY84) \$58
- Sony Memory Stick Pro
- 512MB (SNY9165) \$330
- 1GB (SNY0211) \$343

SanDisk Memory Stick Pro

- 256MB (SMD0207) \$63
- 512MB (SMD0707) \$144
- 1GB (SMD0209) \$290
- 2GB (SMD0390) \$445

SanDisk Memory Stick Pro Ultra

- 256MB (SMD0704) \$65
- 512MB (SMD0705) \$132
- 1GB (SMD0703) \$290



PowerCell Recharger

Recharge and save! The PowerCell Recharger offers discharge function to optimise cycle life. For best results use in:

- Portable CD Players
- Digital Cameras
- Handheld Electronic Games
- High Drain Devices



Canon Video Cameras



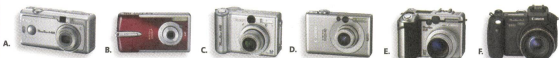
WebCode	Product Description	CCD	Zoom	Digital Zoom	LCD Colour Screen	Storage	Connection	Weight	Price
A. CAN0226	Canon MV7001 MiniDV	800K	18x	360x	2.5 inch	Tape	IEEE1394	485g	\$660
B. CAN0225	Canon MV7301 MiniDV	800K	20x	400x	2.5 inch	MMC & SD	IEEE1394	485g	\$781
C. CAN0224	Canon MV7501 MiniDV	800K	22x	440x	2.5 inch	MMC & SD	IEEE1394	485g	\$990
D. CAN0229	Canon MVX200i	1330K	14x	280x	2.5 inch	MMC & SD	IEEE1394	500g	\$1078
E. CAN0228	Canon MVX250i	1330K	18x	360x	2.5 inch	MMC & SD	IEEE1394	500g	\$1232
F. CAN0294	Canon MVX250i	2.2 million	14x	280x	2.5 inch	Tape, MMC & SD	USB/IEEE 1394	585g	\$1485

Sony Video Cameras



WebCode	Product Description	CCD	Zoom	Digital Zoom	LCD Colour Screen	Storage	Connection	Weight	Price
A. SNY9870	Sony DCRHC15 MiniDV	400K	10x	640x	2.5 inch	Tape	USB/IEEE1394	520g	\$779
B. SNY9871	Sony DCRHC20 MiniDV	400K	10x	120x	2.5 inch	Memory Stick	USB/IEEE1394	380g	\$910
C. SNY9872	Sony DCRHC305 MiniDV	400K	10x	120x	2.5 inch	Memory Stick	USB/IEEE1394	380g	\$1115
D. SNY9875	Sony DCRHC405 MiniDV	690K	10x	120x	2.5 inch	Memory Stick	USB/IEEE1394	400g	\$1334
E. SNY9800	Sony DCRD101 DVD	800K	10x	120x	2.5 inch	DVD	USB	490g	\$1334
F. SNY9862	Sony DCRP1 MicroMV	690K	10x	120x	2 inch	Memory Stick	USB/IEEE1394	230g	\$1731

Canon Digital Cameras



WebCode	Product Description	Megapixels	Zoom	Storage	Batteries	Price
A. CAN0343	Canon Digital Camera Powershot A400	3.2	2.2x Optical	Secure Digital (SD)	2 X AA	\$253
B. CAN0340	Canon Digital Camera Ixus IS Red	5	6.5 Digital	Secure Digital (SD)	NB-3L Li-ion	\$462
C. CAN0236	Canon Digital Camera Powershot A95	5	3x Optical	Compact Flash	4 X AA	\$539
D. CAN0337	Canon Digital Camera Ixus 40	4	3x Optical	Secure Digital (SD)	NB-4L Li-ion	\$583
E. CAN0311	Canon Digital Camera Powershot G6	7.1	4x Optical	Compact Flash	BP-511A Li-ion	\$990
F. CAN0223	Canon Digital Camera Pro 1	8	7x Optical	Compact Flash	BP-511A Li-ion	\$1232

Sony Digital Cameras



WebCode	Product Description	Megapixels	Zoom	Storage	Batteries	Price
A. SNY9882	Sony Digital Camera Cyber-shot DSCP735	4	3x Optical	Memory Stick	NI-MH AA x 2	\$371
B. SNY9811	Sony Digital Camera Cyber-shot DSCU50	2	2x Digital	Memory Stick	NI-MH AA x 2	\$440
C. SNY9885	Sony Digital Camera Cyber-shot DSCW15	5	3x Optical	Memory Stick	NI-MH AA x 2	\$581
D. SNY9887	Sony Digital Camera Cyber-shot DSCP1005	5	3x Optical	Memory Stick	Li-ion NPF61	\$631
E. SNY9793	Sony Digital Camera Cyber-shot DSCV3	7.2	4x Optical	Memory Stick Pro	Li-ion NPF61	\$1269
F. SNY9863	Sony Digital Camera Cyber-shot DSCF828	8	7x Optical	Memory Stick	Li-ion NPFM50	\$1655

1300 658 600

CITY SOFTWARE

Konica Minolta Digital Cameras

The Konica Minolta DiMAGE Z5 has everything you need to take high-quality pictures, giving you images as beautiful as those you see with your own eyes.



- 12x optical Mega Zoom and 4x digital zoom for 48x total zoom; complemented with CCD-shift Anti-Shake System
- Fastest-in-class Rapid AF with Predictive Focus Control
- High-quality pictures with 5.0-megapixel CCD, Konica Minolta GT APD lens, and Konica Minolta CxProcess III image processing technology
- High-resolution, shake-free VGA movies that look as good as TV images
- Ease of operation with large 2.0-inch LCD, compact body, and fast response Super Macro mode for shooting subjects as close as 0.4 inches from the lens
- 26mm wide-angle shooting (35mm equivalent) with the optional Wide-angle Converter ZCW-300

WebCode KON0024

\$889



WebCode	Product Description	Megapixels	Zoom	Storage	Batteries	Price
A. KON0019	Konica Minolta Digital Camera DiMAGE X31	3.2	3x Optical	Secure Digital (SD)	2 x AA	\$286
B. KON0015	Konica Minolta Digital Camera DiMAGE Z10	3.2	8x Optical	Secure Digital (SD)	4 x AA	\$375
C. KON0025	Konica Minolta Digital Camera DiMAGE Z20	5	8x Optical	Secure Digital (SD)	4 x AA	\$489
D. KON0022	Konica Minolta Digital Camera DiMAGE X50 Black S	5	4.3X Digital	Secure Digital (SD)	Li-ion	\$579
E. KON0016	Konica Minolta Digital Camera DiMAGE Z3	4	12x Optical	Secure Digital (SD)	4 x AA	\$779

Olympus Digital Cameras



WebCode	Product Description	Megapixels	Zoom	Storage	Batteries	Price
A. OLY0054	Olympus C-370 Zoom Digital Camera	3.2	3x Optical	XD Picture Card	2 x AA	\$230
B. OLY0049	Olympus D-590Z Zoom Digital Camera	4	3x Optical	XD Picture Card	Li-ion	\$407
C. OLY0045	Olympus MJU Mini Digital Camera	4	2x Optical	XD Picture Card	Li-ion	\$451
D. OLY0034	Olympus MJU-410 Digital Camera	4	3x Optical	XD Picture Card	Li-ion	\$451
E. OLY0055	Olympus C-60 Zoom Digital Camera	6.1	3x Optical	XD Picture Card	Li-ion	\$539
F. OLY0056	Olympus E-300 Digital SLR Camera	8	Variable	Compact Flash (CF)	Li-ion	\$1925

Fuji Digital Cameras



WebCode	Product Description	Megapixels	Zoom	Storage	Batteries	Price
A. FJ10005	Fuji Digital Camera Finepix A340	4	4x Optical	XD Picture Card	Li-ion	\$363
B. FJ10011	Fuji Digital Camera Finepix F700	6.2	3x Optical	XD Picture Card	Li-ion	\$499
C. FJ10014	Fuji Digital Camera Finepix S5500	4	3.6x Digital	XD Picture Card	4 x AA	\$550
D. FJ10016	Fuji Digital Camera Finepix F810	6.3	4x Optical	XD Picture Card	Li-ion	\$715
E. FJ10010	Fuji Digital Camera Finepix S7000Z	6.3	6x Optical	XD Picture Card	4 x AA	\$880

Compact Flash Cards

SanDisk

- 128MB (S1M0188) \$32
- 256MB (S1M0189) \$52
- 512MB (S1M0190) \$85
- 1GB (S1M0191) \$145
- 2GB (S1M0690) \$280

SanDisk Ultra II

- 256MB (S1M0193) \$57
- 512MB (S1M0194) \$99
- 1GB (S1M1002) \$175
- 2GB (S1M0691) \$350

FROM \$32



xD Picture Cards

Olympus

- 32MB (OLY0016) \$35
- 64MB (OLY0012) \$43
- 128MB (OLY0013) \$80
- 256MB (OLY0010) \$125
- 512MB (OLY0018) \$264

SanDisk

- 64MB (S1M0383) \$37
- 128MB (S1M0384) \$60
- 256MB (S1M0385) \$95
- 512MB (S1M0382) \$175

FROM \$35



Media Recovery

- Easily recover and fix lost photos, audio and video.
 - Recover files even after accidental deletion, a format or corruption.
 - For digital cameras and all removable media.
- Recovers the following types of files: Images - JPEG, EXIF, TIFF, PNG, GIF, BMP, RAW Images; Canon CRW, Nikon NEF, Kodak DCR, Others Audio/Video clips - AVI, MOV, MPG/MPEG



\$41

WebCode MAN0024

Dicota

AluCompact

AluCompact, classy in its optics and comfortable in handling. The two exterior hulls are made of full aluminium and are each manufactured from one piece which makes the case especially robust despite its light weight. Also available for 17" laptops



\$209

WebCode DIC0002

Dicota

BacPac Rain

In rain or sunshine, BacPac Rain protects your Mobile Computing Equipment from unpleasant surprises. The integrated rain cover in the floor of the bag provides perfect protection from moisture. The water-repelling hull is simply pulled over the backpack! Available in 4 colours.



\$93

WebCode DIC0008

Dicota

Multi Plus

Generously dimensioned case for Notebooks up to 16 inches. The effective cushioning made of High-Density Foam surrounds the Notebook and provides maximum protection. The Notebook compartment is lockable and has a Notebook strap for even more safety. In sophisticated segmented compartments everything is perfectly stored.



\$71

WebCode DIC0002

Pinnacle Studio 9

Create spectacular movies using numerous professional quality features and integrated DVD/DVD burning capabilities. Pinnacle Studio 9 provides image stabilisation, automated editing, automatic colour correction, noise removal, and surround sound, while maintaining total ease of use.



\$176

WebCode PIN0074

Pinnacle Liquid Edition 6

More powerful and accessible than ever — with familiar new interface options and transparent interoperability with Pinnacle Studio. In addition to all of the strong editing features that professionals demand and require, Liquid Edition, SmartRT real-time HDV editing, SmartRT real-time power, SmartEDIT multi-format native editing, advanced audio tools and DVD authoring.



\$920

WebCode PIN0098

Dvico Fusion HDTV Lite

Watch & record high definition digital TV on your PC. Experience premium picture quality with surround sound audio on your 5.1 compatible sound system. Record in DVD quality for editing and burning to DVD. Includes IR remote control. Compatible with Microsoft MCE2005.



\$176

WebCode DVC0004

Dvico Fusion MPEG

Convert your VHS tapes to DVD. Simply connect your VCR or camcorder and digitize your videos into DVD quality MPEG2 video, ready for burning to DVD. Edit & author your videos using Ulead VideoStudio. Includes external, portable USB "donut" device and software.



\$330

WebCode DVC0003

Pinnacle Studio 9 Plus

Pinnacle Studio Plus v.9 is an advanced video editing and disc authoring application whose intuitive interface and seamless workflow provide video enthusiasts with on-demand access to hundreds of professional-quality functionalities like chroma-key and picture-in-picture effects, image stabilization, automated editing.



\$209

WebCode PIN0091

Pinnacle Liquid Edition 6 Pro

Liquid Edition 6 Pro has all the features of Liquid Edition 6, plus the unique USB2.0 Breakout Box with Component, Digital, Analogue inputs and outputs. It even allows you to preview in real-time your 5.1 audio track through the Optical outputs!



\$1970

WebCode PIN0095

Dvico Fusion HDTV Plus

Watch & record HD digital TV on your PC. Exceptional picture quality with surround sound audio on your 5.1 compatible sound system. Record in DVD quality for editing and burning to DVD. Pause & replay live TV with timeshifting. Capture analogue video. Includes IR remote control. Compatible with Microsoft MCE2005.



\$209

WebCode DVC0005

Dvico TVIX

Enjoy your digital movies, music and photos on your TV! TVIX is a multimedia jukebox for storing & playing your DVD's, MP3's and digital photos to your TV & home entertainment system. Simply transfer your digitized DVD movies, music & photos, then transfer to the TVIX & connect to your TV. Supports 5.1 Surround Sound & is a portable storage too. Includes IR remote control.



Including 80GB Hard Disk (DVC0006) **\$484**

\$341

WebCode DVC0007

Pinnacle Studio 9 Media Suite

Pinnacle Studio 9 Media Suite is a complete suite of software to maximize your creativity. It includes:

- Studio 9 Plus
- Corel PhotoBook
- Steinberg WaveLab Lite
- Instant Copy
- Pinnacle Media Manager
- Instant DVD Recorder
- Instant Cinema
- Instant Disc
- Instant Backup



\$250

WebCode PIN0102

Pinnacle Liquid Edition 6 Pro Upgrade

More powerful and accessible than ever with familiar new interface options and transparent interoperability. In addition to all of the strong editing features that professionals require, Liquid Edition delivers real-time HDV editing, SmartRT real-time power, SmartEDIT multi-format native editing, advanced audio tools and DVD authoring. Upgrades from Liquid Edition 5.5



\$1496

WebCode PIN0096

Dvico Fusion HDTV USB 2.0

Watch & record HD digital TV on your desktop or notebook PC. Portable, external USB 2 device. Record in DVD quality & burn to DVD. Pause & replay live TV with Timeshifting. Supports Electronic Program Guide (EPG). Convert HDTV to MPEG4 format. Includes IR remote control & software.



\$279

WebCode DVC0013

Dvico TVIX Car

Take your collection of DVD movies & digital music with you when you drive. TVIX can now connect to your car entertainment system for playing back DVD movies to your in-car display & MP3's to your audio system. Complete with car power adapter, IR remote control, carry bag & AV cables.



\$350

WebCode DVC0014

Hauppauge DEC2000T

The DEC2000T is a standard definition digital TV set top box with a difference - it has a USB port allowing capture of your favourite Digital TV programs to your hard drive. You can use the DEC2000T stand-alone with your television set or attach a desktop or laptop PC via USB for live viewing, recording and playback.



\$363

WebCode HAU0016

Hauppauge Nova T

The Nova T is a standard definition (future HD upgradeable) Digital TV PCI tuner card. The Nova T offers the most incredible picture quality available on a PC tuner card. Digital TV programs can be viewed live, pause/timeshifted or recorded to hard drive in their full digital quality without any loss. These can then be archived to DVD.



\$253

WebCode HAU0014

Showshifter

Your computer, with a little help from Showshifter, will transform itself into the ultimate video and audio media system. Watch, pause and record TV, plus play video files, DVDs and MP3s - and control it all with an infrared remote.



Ideal for your home media centre

\$121

WebCode HAU045

Logitech Quickcam Express

Now you can meet face-to-face online with live video calls. Or make your instant messages come alive by adding live video to your MSN Messenger or Yahoo! Messenger. Or set up a webcam to share your world. Or snap and send photos and videos along with your e-mail as easily as you send text.



\$46

WebCode LOG3412

Hauppauge TV Tuner Cards

Bringing TV and broadcast data to your PC



WebCode	Product Description	Interface	Audio	FM Radio	HW MPEG Recorder	Remote Control	5-Video In	Video In	Audio In	Price
A. HPG0002	WinTV-PVR-350	PCI	DBX Stereo	Yes	Up to 12MBits/sec	Yes	Yes	Yes	Yes	\$484
B. HPG0001	PVR-150	PCI	DBX Stereo	No	Up to 12MBits/sec	Yes	Yes	Yes	Yes	\$279
C. HAU0004	WinTV-USB2	USB2	Mono	No	Up to 12MBits/sec	Yes	Yes	Yes	Yes	\$209
D. HAU0013	PVR-USB2	USB2	Stereo	Yes	Up to 12MBits/sec	Yes	Yes	Yes	Yes	\$306

Canopus Let's EDIT 2

Capture your home movies, edit them with realtime special effects and then burn to DVD. Canopus Let's EDIT 2 is fast and easy-to-use video editing software with movie-style effects and DVD-Video authoring. Breakthrough realtime operation dramatically speeds up the editing process, as there is no rendering or waiting while creating movies with sophisticated special effects.



\$242

WebCode CPS0021

Canopus Let's EDIT RT 2

Let's EDIT RT 2 can capture video from any analog device, such as a VHS deck or Hi8 camcorder, and edit the footage with Let's EDIT 2 software. Featuring the same proprietary DV code chip and locked audio technology found in the Canopus ADVC product line, providing unmatched image quality and perfect audio/video synchronization when converting analog footage to digital video. Perfect for converting analog footage to digital and creating DVDs from old videotapes.



\$550

WebCode CPS0022

Canopus Let's EDIT RT+ 2

In addition to the analog video input features of Let's EDIT RT 2, Let's EDIT RT+ 2 also features analog video output, which provides video output connectivity to a monitor or television while editing, and also to VHS and Hi8 VCRs and cameras. Let's EDIT RT+ 2's native OHC design with analog video support, offer the widest compatibility with video cameras, decks and even other video editing and DVD authoring software applications.



\$750

WebCode CPS0023

Canopus ADVC55

Use ADVC55 to connect VHS, Hi8 and other analog video equipment to a DV camera, deck or editing system. ADVC55 is a compact and easy to use digital video converter compatible with Windows and Mac OS computers.



\$396

WebCode CPS0018

Canopus ADVC110

Use ADVC110 to connect all analog and digital video cameras, decks and editing systems. ADVC110 is a portable and easy-to-use bi-directional (analogue video input and output) digital video converter compatible with Windows and Mac OS computers.



\$649

WebCode CPS0020

Canopus ADVC300

The ADVC300 is the ultimate bi-directional analog to digital video converter unit for the video enthusiast. Featuring high-quality image enhancement technology including digital noise reduction and image stabilization using Line Time Base Correction (LTBC), ADVC300 instantly cleans, stabilizes and preserves old VHS and Hi8 videos in clean DV format. Supporting Windows and Mac OS, ADVC300 is compatible with all widely used video editing applications including Canopus EDIUS, Final Cut Pro, Avid Xpress DV and Adobe Premiere Pro.



\$990

WebCode CPS0015

XP Sound

The "XP201" PhonoMic pre-amp provides a combination of hard and software to achieve high quality transfer of old records and cassettes to your home desktop PC or laptop in addition to offering a handy high quality microphone pre-amp and headphone amplifier. The included software (Win only) "Diamond Cut 32 V4.0" allows users to professionally edit their recorded audio.



\$176

WebCode XP50001

RENT SMART
Because buying isn't

SEE PAGE 3 FOR DETAILS

Belkin Cable IEEE

Belkin Cable IEEE 1394

- 4 Pin to 4 90cmm (F3N402-03-ICE) **\$22**
- 4 Pin to 4 1.8m (F3N402-06-ICE) **\$27**
- 6 Pin to 4 90cmm (BEL0065) **\$22**
- 6 Pin to 4 1.8m (F3N401-06-ICE) **\$27**
- 6 Pin to 6 1.8m (F3N400-06-ICE) **\$27**

Belkin Cable Firewire

800/400 Spin-4pin

- 1.8m (BEL0265) **\$30**

Belkin Cable Firewire

800/400 Spin-6pin

- 1.8m (BEL0266) **\$30**
- 4.5m (BEL0267) **\$33**

Belkin Cable Firewire

800/400 Spin-9pin

- 1.8m (BEL0269) **\$30**
- 4.5m (BEL0270) **\$33**



Belkin Patch Cable CAT5e

- Belkin Patch Cable CAT5e Snagless 1m (BEL0218) **\$7**
- Belkin Patch Cable CAT5e Snagless 5m (BEL0220) **\$15**
- Belkin Patch Cable CAT5e Snagless 10m (BEL0221) **\$20**
- Belkin Patch Cable CAT5e Snagless 15m (BEL0222) **\$25**

We Stock CAT6 Cables

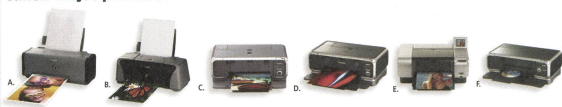


Belkin USB Peripheral Cables

- Belkin USB Peripheral Cable A-B 1.8m (F3U133-06) **\$12**
- Belkin USB Peripheral Cable A-B 3m (F3U133-10) **\$17**
- Belkin USB Peripheral Cable A-B 5m (PSCUSBMB) **\$22**

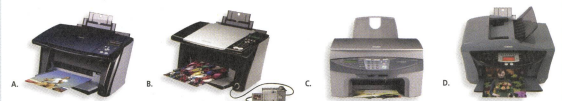


Canon Inkjet printers



WebCode	Product Description	Black	Colour	Print Resolution	Connectivity	Platform	Price
A. CAN0327	Canon IP1000 Inkjet Printer	14ppm	11ppm	4800 x 1200 dpi	USB	Win / Mac	\$77
B. CAN0328	Canon IP1500 Inkjet Printer	18ppm	13ppm	4800 x 1200 dpi	USB	Win / Mac	\$121
C. CAN0313	Canon IP3000 Inkjet Printer	22ppm	15ppm	4800 x 1200 dpi	USB	Win / Mac	\$220
D. CAN0310	Canon IP4000 Inkjet Printer	25ppm	17ppm	4800 x 1200 dpi	USB	Win / Mac	\$275
E. CAN0329	Canon IP6000D Inkjet Printer	11ppm	9ppm	4800 x 1200 dpi	USB/IRDA	Win / Mac	\$429
F. CAN0325	Canon IP8500 Inkjet Printer	17ppm	15ppm	4800 x 2400 dpi	USB	Win / Mac	\$517

Canon Multifunction printers



WebCode	Product Description	Black	Colour	Print Resolution	Scan Resolution	Copy-Black	Fax	Connectivity	Platform	Price
A. CAN0169	Canon MP360 MFC Printer	18ppm	12ppm	4800 x 1200 dpi	1200 x 2400 dpi	18ppm	N/A	USB 2.0	Win	\$179
B. CAN0276	Canon MP390 MFC Printer	18ppm	12ppm	4800 x 1200 dpi	1200 x 2400 dpi	18ppm	YES	USB 2.0	Win	\$349
C. CAN0127	Canon MP700 MFC Printer*	22ppm	14ppm	4800 x 1200 dpi	1200 x 2400 dpi	22ppm	N/A	USB	Win	\$418
D. CAN0362	Canon Pixma MP780 MFC	25ppm	17ppm	4800 x 1200 dpi	2400 x 4800 dpi	25ppm	Yes	USB 2.0	Win / Mac	\$550

Lexmark Inkjet printers



WebCode	Product Description	Black	Colour	Print Resolution	Connectivity	Platform	Price
A. LEX0513	Lexmark Z513 Inkjet Printer	12ppm	7ppm	2400 x 1200 dpi	USB 2.0 / 1.1	Win / Mac	\$53
B. LEX0915	Lexmark P915 Inkjet Printer	22ppm	15ppm	4800 x 1200 dpi	USB 2.0 / 1.1	Win / Mac	\$198
C. LEX8315	Lexmark P315 Inkjet Printer	N/A	N/A	4800 x 1200 dpi	Memory card/PictBridge	Direct	\$238

Lexmark Multifunction printers



WebCode	Product Description	Black	Colour	Print Resolution	Scan Resolution	Copy-Black	Fax	Connectivity	Platform	Price
A. LEX2285	Lexmark X1185 MFC Inkjet Printer	14ppm	8ppm	4800 x 1200 dpi	600 x 1200 dpi	13ppm	N/A	USB 2.0	Win / Mac	\$119
B. LEX4270	Lexmark X4270 MFC Inkjet Printer	19ppm	10ppm	4800 x 1200 dpi	600 x 1200 dpi	18ppm	Yes	USB 2.0	Win	\$183
C. LEX6170	Lexmark X6170 MFC Inkjet Printer	19ppm	10ppm	4800 x 1200 dpi	1200 x 4800 dpi	16ppm	Yes	USB 2.0	Win	\$319
D. LEX6250	Lexmark X6250 MFC Inkjet Printer	22ppm	15ppm	4800 x 1200 dpi	1200 x 2400 dpi	18ppm	N/A	USB 2.0	Win / Mac	\$319
E. LEX7170	Lexmark X7170 MFC Inkjet Printer	22ppm	15ppm	4800 x 1200 dpi	1200 x 4800 dpi	22ppm	Yes	USB 2.0	Win / Mac	\$398

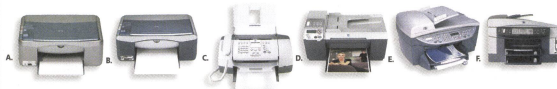
*Media card compatible

HP Inkjet Printers



WebCode	Product Description	Black	Colour	Resolution	Connectivity	Platform	Price
A. HPD9037	HP Deskjet 3845 Color Inkjet Printer	18ppm	14ppm	4800 x 1200 dpi	USB	Win / Mac	\$112
B. HPD9993	HP Deskjet 5740 Color Inkjet Printer	23ppm	18ppm	4800 x 1200 dpi	USB	Win / Mac	\$145
C. HPD8654	HP Deskjet 6540 Colour Inkjet Printer	30ppm	20ppm	4800 x 1200 dpi	USB	Win / Mac	\$250
D. HPD3399	HP Photosmart B150 Photo Printer	20ppm	20ppm	4800 x 2400 dpi	USB	Win / Mac	\$334
E. HPD3419	HP Photosmart 375 Compact Photo Printer	Photo 45 sec	N/A	1200 x 1200 dpi	USB	Win / Mac	\$336
F. HPD8112	HP Deskjet 4500ci Mobile Printer	9ppm	9ppm	4800 x 1200 dpi	USB/BTDA	Win / Mac	\$405

HP Multifunction Printers



WebCode	Product Description	Black	Colour	Copy-Black	Print Res.	Scan Res.	Fax	Connectivity	Platform	Price
A. HP55765	PSC 1315 all-in-one	17ppm	12ppm	17ppm	4800 x 1200	600 x 2400 dpi	NO	USB	Win / Mac	\$131
B. HP55501	Multifunction OfficeJet PSC1350*	17ppm	12ppm	17ppm	4800 x 1200	600 x 600 dpi	NO	USB	Win / Mac	\$174
C. HP55611	Multifunction OfficeJet 4255	17ppm	12ppm	17ppm	4800 x 1200	600 x 1200 dpi	YES	USB	Win / Mac	\$210
D. HP53435	Multifunction OfficeJet 5510	17ppm	12ppm	17ppm	4800 x 1200	600 x 2400 dpi	YES	USB	Win / Mac	\$345
E. HP58739	Multifunction OfficeJet 6110	19ppm	15ppm	19ppm	4800 x 1200	1200 x 2400 dpi	YES	USB	Win / Mac	\$429
F. HPD5569	MFC Machine OfficeJet 7410*	30ppm	17ppm	30ppm	4800 x 1200	2400 x 4800 dpi	YES	USB / Wifi / Ethernet	Win / Mac	\$776

Epson Inkjet Printers



WebCode	Description	Black	Colour	Resolution	Connectivity	Platform	Price
A. EP1045	Epson Stylus C45 Inkjet Printer	12ppm	5.4ppm	Up to 2880 dpi	USB	Win / Mac	\$69
B. EP1044	Epson Stylus C43SX Inkjet Printer	12ppm	5.4ppm	Up to 2880 dpi	USB / Parallel	Win	\$86
C. EP1005	Epson Stylus C65 Inkjet Printer	17ppm	9ppm	5760 x 1440 dpi	USB	Win / Mac	\$111
D. EP10210	Epson Stylus Photo R210 Inkjet Printer	15ppm	15ppm	5760 x1440 dpi	USB	Win / Mac	\$212
E. EP10310	Epson Stylus Photo R310 Inkjet Printer	15ppm	15ppm	5760 x1440 dpi	USB	Win / Mac	\$256

Epson Multifunction Printers



WebCode	Description	Black	Colour	Print Resolution	Scan Resolution	Connectivity	Platform	Price
A. EP1501	Multifunction Stylus Photo CX1500	12ppm	5.5ppm	5760 x 1440 dpi	600 x 1200 dpi	USB	Win	\$125
B. EP10430	Multifunction Stylus Photo RX430	15ppm	15ppm	5760 x 1440 dpi	1200 x 2400 dpi	USB	Win / Mac	\$308
C. EP10500	Multifunction Stylus CX6500*	22ppm	11ppm	5760 x 1440 dpi	1200 x 2400 dpi	USB	Win / Mac	\$333
D. EP10510	Multifunction Stylus Photo RX510*	17ppm	16ppm	5760 x 1440 dpi	2400 x 4800 dpi	USB	Win / Mac	\$424
E. EP10630	Multifunction Stylus RX630	17ppm	16ppm	5760 x 1440 dpi	2400 x 4800dpi	USB	Win / Mac	\$515

*Media card compatible

HP Papers

- A4 Everyday Photo Semi Gloss 170gsm
100 Sheets (HPD2511) \$17
- A4 Premium Inkjet 98gsm
200 Sheets (HPD1936) \$33

Canon Papers

- A4 High Resolution 110gsm
50 Sheets (CAN0068) \$13
- A3 High Resolution 110gsm
20 Sheets (CAN0080) \$33
- A3 High Resolution 110gsm
20 Sheets (CAN0111) \$10
- A3 High Resolution 110gsm
100 Sheets (CAN0112) \$42

Kodak Papers

- 4" x 6" Picture Paper
20 Sheets (KOD4822) \$10
- 40 Sheets (KOD6698) \$15
- 4" x 6" Premium Picture Paper
25 Sheets (KOD8083) \$13
- 75 Sheets (KOD6004) \$32

A4 Everyday Picture Paper 165gsm

- 20 Sheets (KOD6695) \$10
- 100 Sheets (KOD3293) \$35
- A4 Picture Paper Glossy 190gsm
25 Sheets (KOD5448) \$15
- 75 Sheets (KOD5449) \$33

A4 Premium Picture Paper Glossy 220gsm

- 50 Sheets (KOD5283) \$33
- A4 Premium Picture Paper Satin 220gsm
15 Sheets (KOD5743) \$15
- 50 Sheets (KOD5679) \$33

Epson Papers

- Photo Quality Inkjet Paper
100 Sheets

A4 (EPA5016) \$27

A3 (EPA5031) \$64

A3+ (MB064) \$79

Matte Heavyweight Paper

50 Sheets

A4 (EPA1258) \$27

A3 (EPA5003) \$85

A3+ (EPA1263) \$81

Photo Glossy Paper

20 Sheets

A4 (ISWEPS373) \$20

A3 (EPA5058) \$68

A2 (EPA5046) \$105

Premium Photo Glossy Paper

50 Sheets 4" x 6" (EPA1729) \$16

20 Sheets A4 (EPA5001) \$32

A3 (EPA5005) \$78

A3+ (EPA5004) \$115



Planon DocuPen R700 The World's Lightest A4 Document Scanner!

Scan newspapers, articles, books, maps or other full-page documents. Whether you're on a plane, at a client's office or in your car, the patented ultra lightweight technology makes scanning a breeze. USB connectivity & battery recharging. Includes FREE ScanSoft PaperPort software!



Available
ONLY from ESI
Software &
Hardware

* Guinness World Records Book 2005

\$299

WebCode PLAA001

Syscan TravelScan 860

The TravelScan 860 is a business card scanner which interfaces to any standard USB port. It is bundled with Syscan OCR business card software providing first-class business card recognition and ease of use. Automatically perform text recognition of the card (OCR) and save both the text and the image.



\$242

WebCode SYS001

Syscan TravelScan 464

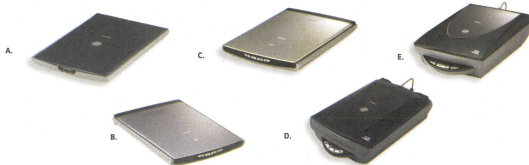
At only 335 grams, the TravelScan 464 seems like a light weight but it packs plenty of punch. It features USB 2 interface, 600 optical resolution and the versatile PageManager 6 document management software. Scan an A4 page in as little as 25 seconds. Free from clumsy power adaptors: plugs straight into your PC's USB port.



\$275

WebCode PRS004

Canon CanoScan Scanners



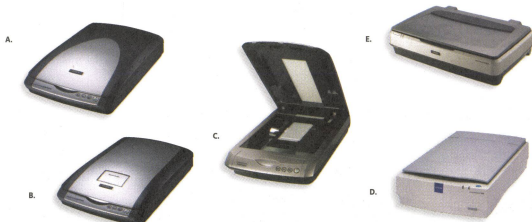
WebCode	Product Description	Resolution	Connectivity	Platform	Price
A. CAN0083	Canon CanoScan LIDE 20 Scanner	600 x 1200 dpi	USB 2.0	Win/Mac	\$88
B. CAN0326	Canon CanoScan LIDE 35 Scanner	1200 x 2400 dpi	USB 2.0	Win/Mac	\$132
C. CAN0190	Canon CanoScan LIDE 80 Scanner With Transparency Adaptor	2400 x 4800 dpi	USB 2.0	Win/Mac	\$220
D. CAN0267	Canon CanoScan CS200F Scanner With Transparency Adaptor	2400 x 4800 dpi	USB 2.0	Win/Mac	\$308
E. CAN0336	Canon CanoScan 9950F Scanner With Transparency Adaptor	3200 x 6400 dpi	USB 2.0/Firewire	Win/Mac	\$704

HP Scanjet Scanners



WebCode	Product Description	Resolution	Connectivity	Platform	Price
A. HPS1915	HP Scanjet 3770 Digital Flatbed Scanner	1200 x 2400 dpi	USB 2.0	Win/Mac	\$216
B. HPS1920	HP Scanjet 4070 Digital Flatbed Scanner	2400 x 2400 dpi	USB 2.0	Win/Mac	\$303
C. HPS1910	HP Scanjet 5590 Digital Flatbed Scanner	2400 x 2400 dpi	USB 2.0	Win/Mac	\$866
D. HPS7718	HP Scanjet 7450C Digital Flatbed Scanner	2400 x 2400 dpi	USB 2.0/SCSI	Win/Mac	\$1408

Epson Perfection/Expression Scanners



WebCode	Product Description	Resolution	Connectivity	Platform	Price
A. EPS2480	Epson Perfection 2480 Photo Scanner	2400 x 4800 dpi	USB 2.0	Win/Mac	\$256
B. EPS2580	Epson Perfection 2580 Photo Scanner	2400 x 4800 dpi	USB 2.0	Win/Mac	\$303
C. EPS4180	Epson Perfection 4180 Photo Scanner	4800 x 9600 dpi	USB 2.0	Win/Mac	\$518
D. EPS1680	Epson Expression 1680 Scanner	1600 x 3200 dpi	USB/SCSI	Win/Mac	\$1901
E. EPS1000	Epson Expression 10000XL Scanner	2400 x 4800 dpi	USB 2.0/Firewire	Win/Mac	\$5294

Microsoft Wireless Notebook Optical Mouse

- Snap-in receiver
- Optical technology for precision and speed
- Scroll Wheel to move through documents quickly
- Designed for comfort for either hand
- Longer battery life



Blue	Slide
\$69	\$69
WebCode MST0354	WebCode MST0353

Microsoft Standard Wireless Optical Mouse

- Long Battery Life - Many users average more than six months battery life
- 3 Button mouse
- Optical Technology for speed and precision
- Designed for comfort for either hand
- USB/PS2



Black	White
\$39	\$39
WebCode MST0342	WebCode MST0341

Microsoft Wireless Optical Mouse

Combines precise Microsoft optical tracking with revolutionary new tilt wheel technology, which enables side to side, as well as up and down scrolling. Your wireless freedom is made even more convenient with new longer battery life, providing many users with more than 6 months battery life. PS2/USB. Win/Mac.



Steel	Blue Moon
\$54	\$46
WebCode MST0289	WebCode MST0290

Microsoft Optical Desktop with Fingerprint Reader

- Fingerprint Reader for Convenient Password Replacement
- Optical Mouse with Tilt Wheel Technology
- Longer Mouse Battery Life
- Multimedia Centre - Control your media activities with the touch of a button
- Customisable Hot Keys



Black
\$150
WebCode MST0351

Microsoft Wireless Optical Desktop

Features a new Curve Design which provides enhanced comfort in a flat keyboard. The Zoom Slider allows you to zoom in and out of images on-screen. Gain instant access to your favourite Web sites and files with the keyboard "My Favourite" Keys. The wireless optical mouse has a longer battery life, as well as Tilt Wheel Technology for side-to-side and down scrolling.



White
\$113
WebCode MST0340

Microsoft Standard Wireless Desktop

- Wireless Freedom—No cords
- Optical Technology for Precision Accuracy
- Enhanced F Keys—Perform common commands from your keyboard
- Customisable Hot Keys—Get one-touch access to the programs and files you use most



Steel
\$69
WebCode MST0350

Logitech Mobile Freedom Headset

Tired of holding your mobile phone to your ear? Enjoy cordless hands-free convenience with the comfortable and lightweight Logitech Mobile Freedom Headset. With features like eight hours of talk time and the WindStop microphone, this Bluetooth headset has the performance you need to stay in touch anywhere you go.



Black
\$64
WebCode LOG3488

Logitech Precision PC Gaming Headset

Forget mainstream... go underground with the Logitech Precision PC Gaming Headset. For the gamer with attitude, its unique design and heightened performance fulfill your gaming needs. Big 40mm neodymium stereo headphones drives give you the audio experience you've been looking for, and its noise canceling microphone delivers the voice quality you demand.



Black
\$29
WebCode LOG3457

Logitech Cordless Optical Mouse for Notebooks

Logitech's Cordless Optical Mouse for Notebooks delivers mobility without compromise. Using a trim USB receiver, you get crisp cordless performance through Logitech's FastRF technology. Crafted to match with today's notebook PCs, it can be used with either right or left hand. An on-off switch conserves power on the road.



Black
\$43
WebCode LOG3417

Logitech Cordless Desktop LX 300

The Logitech® Cordless Desktop® LX 300 cleans up your work space, and empowers your style. Control music and video playback, open e-mail or instant Messenger, or navigate the Web directly from the keyboard. Distinctive F-keys are programmable. Premium cordless optical mouse tracks precisely, while a new ultra-flat keyboard delivers leading-edge comfort.



Black
\$74
WebCode LOG3478

Logitech Cordless Desktop LX 700

The Logitech® Cordless Desktop® LX 700 is a premium blend of form and function, with rechargeable cordless optical mouse. MediaLife™ software presents your media library in a single easily navigated interface. Includes sleek one-touch controls for media, communication, and frequent applications. Plus keyboard-based navigation controls that complement mouse.



Black
\$131
WebCode LOG3461

Telstra F4100+1

Features large 8 line display providing better screen visibility for SMS messages. Includes Fast Text (predictive text), handsfree, multi-handset compatible up to 5 handsets, Flashing Message Indicator for Telstra 101 or Message bank, 40 name & number memory, Call number display, SMS capability - network dependent. Please refer to your network service provider for further details)



Includes 2 Cordless Handsets
\$148
WebCode CLS4101

Telstra F2400+1

Telstra F2400 Digital DECT cordless telephone. Handsfree, large easy-to-read orange back light display, large key pad buttons, hearing aid compatible.



Includes 2 Cordless Handsets
\$105
WebCode CLS2401

Telstra F4200

DECT Digital SMS Cordless Telephone 4 line display, blue back light, wrap text, predictive text, headset jack, pin protected mailbox, flashing message indicator which shows messages if connected to Telstra 101 or Telstra Message Bank, 30 number memory, expand system to 5 extra handsets.



Headset Included
\$123
WebCode CLS4200

Digimemo Digital Notepad

The digital notepad captures everything you write or draw as an image and stores it into its in-built 8MB memory (expandable with Compact Flash). Approximately 560grams in weight and uses standard A5 notepads. Software included. Compatible with WinME, 2000, XP, 2003.


\$180

WebCode ANY0056

Acecad 3x2" Graphics Tablet

Compact sized graphics tablet with 3 button cordless and pressure sensitive pen. Ultimate handwriting input device for Microsoft Office XP or the ideal painting tool for children. Allows you to easily draw, write, sign, trace pictures, clip arts & retouch photos. Compatible with WinXP/2000/ME/98 & iMac/Mac OS 8.6 or later. USB interface for easy Plug & Play


\$78

WebCode ANY0118

Acecad 5x4" Graphics Tablet

Compact sized graphics tablet with 3 button cordless and pressure sensitive pen. Does everything a mouse can do and more! Ultimate handwriting input device for Microsoft Office XP. Compatible with WinXP/2000/ME/98 & iMac/Mac OS 8.6 or later. USB interface for easy Plug & Play. Active area: 5x3.75".


\$89

WebCode ANY0318

Kensington PCKey

The total solution for access control and data protection on notebook computers.

If your notebook is unlocked, your network is too. Protect your network and notebook with the strongest Access Control and Data Protection product on the market - PCKey. The simplest, strongest total solution for access control and data protection on notebook computers. Two-factor authentication for user access and 128-bit AES encryption for data protection.

- Two-factor authentication provides superior access control protection
- 128-bit AES encryption provides highest-level of data protection, with no impact on computer performance
- Tamper-proof USB key cannot be falsified or compromised by hackers
- Web-based user registration and support relieves IT managers of active user support
- Step-by-step installation designed so anyone can do it
- Microsoft Windows 98/ME/2000/XP
- 1 year warranty

Don't get caught with your notebook exposed and in the wrong hands, use PCKey for peace of mind protection!

For more information please visit www.csw.com.au/kensington


\$89

WebCode KEN0053

Wacom Graphire3 Digital Photographic Toolkit

The Graphire3 6x8 Digital Photographic Toolkit. The Digital Photographic Toolkit is specifically designed to meet the needs of Digital Photographers, by maximising the fun and ease of manipulating and sharing Digital Photos. The Graphire3 6x8 Digital Photographic Toolkit comes in a limited edition silver colour, with software which creates a Seamless Digital Photographic workflow.

Included Software

- Ulead Photo Explorer 8 SE Basic
- Adobe Photoshop Elements 2.0
- Photo Express 4 SE for Wacom
- Corel Painter Essentials 2



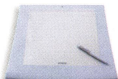
6x8 Silver

WebCode WAC0047

\$249

Wacom Intuos2 12x12

This larger 12"x12" unit provides the ultimate workspace for all design and engineering requirements. If your work requires long sweeping arm movements, or creating full pages at scale then this is the ideal tablet for you.


\$610

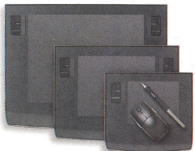
WebCode WAC0048

Wacom Intuos3

The Intuos3 extends the functionality of Wacom's pen tablets and introduces an exciting new look and innovative tablet features for improved workflow. The enhanced Intuos3 look-and-feel is improved by with new industrial design including an elegant transparent surface with a matte-finish active area, a new Grip Pen design, and a new two-position pen stand/holder.

Wacom's new Intuos3 Grip Pen is more comfortable to hold, and features 1024 levels of tip and eraser pressure, tilt, angle and direction, and two side buttons that act as modifier keys, keystrokes, or mouse buttons. As with all Intuos3 tools, the pen's functionality is completely customizable through Wacom's Control Panel software.

Additional functionality is provided through new programmable buttons called ExpressKeys and an innovative, integrated Touch Strip. The ExpressKeys are four programmable keys designed to optimize workflow by providing quick access to commonly used modifiers, mouse clicks, keystrokes, and other time-saving operations.



4x5

WebCode WAC0430

\$308

6x8

WebCode WAC0630

\$484

8x12

WebCode WAC0830

\$605

Comsol USB 2.0 flashIT Storage Drives

These pocket USB 2.0 flashIT Storage Drives plug directly into any standard USB port and are compatible with both PC and MACs.

- Password security control
- Portable e-mail function
- PC Lock function
- AutoZip and encryption function
- 128MB (COM0088) **\$44**
- 1GB (COM0091) **\$198**
- 2GB (COM0097) **\$330**



256MB \$70 WebCode COM0089	512MB \$110 WebCode COM0090
---	--

Comsol MicroFlash USB 2.0 Storage Drive

The Comsol MicroFlash USB 2.0 Storage Drives are the perfect choice for portable storage where size matters. Compact and lightweight, they will fit on a key ring or just pop them in your pocket.

- Compact Size - Only 45mm long and weighs only 3.6 grams
- Supplied with detachable key ring for convenient connection to computer
- Security Zone Feature to prevent Unauthorised Access



128MB \$50 WebCode COM0073	256MB \$80 WebCode COM0074
---	---

Comsol USB 2.0 HDD Enclosures

Just drop in your 2.5" or 3.5" IDE hard drive and you have a hot-swappable, platform-independent, high-speed portable drive! Ideal as an external storage or backup device.

- USB Specification 2.0 Compliant
- Backwards compatible to USB 1.1 host controller
- Quick & easy installation



2.5 Inch \$69 WebCode COM0230	3.5 Inch \$99 WebCode COM0240
--	--

Comsol ServerLink Star 2 Port KVM

Control two PCs with a single keyboard, monitor & mouse. All ServerLink Star KVM switches have audio and microphone support for multimedia applications.

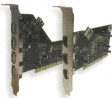
- SL-271-P (COM0075) **\$77**
- SL-271-U (COM0076) **\$88**



SL-271-C \$79 WebCode COM0077
--

Comsol Host Adapters

The 1394-PCI provides PCs with 3 FireWire ports, allowing you to connect high performance FireWire devices. The UPCI-502 is a 5 port USB 2.0 PCI controller card enabling data transfer rates of up to 480Mbps.



5 Port USB 2.0 \$39 WebCode COM0290	5 Port FireWire \$39 WebCode COM0300
--	---

Comsol USB to PS/2 Keyboard & Mouse Adapter

Allows you to plug a standard PS/2 keyboard and standard PS/2 mouse into a single USB port on your computer.

- Easy installation - no software drivers required
- Bus Powered - External Power Adapter Not Required
- Complies to USB 1.0 and 1.1 Specification
- Support UNICI and OHCI USB Interface
- Supports Windows 98, ME, 2000, XP & Mac



\$30 WebCode COM0020

Comsol CardBus Adapters

Simply and quickly add high speed USB 2.0 or IEEE 1394 FireWire ports to your notebook!

- Quick & easy installation ideal for any mobile executive
- Supports 32 bit CardBus PC Card type II slots.
- Automatically switches to the peripheral's highest supported speed
- Supports Windows 98SE/ME/2000/XP & Mac
- USB 2.0 & FireWire Combo (COM0270) **\$88**



USB 2.0 \$59 WebCode COM0250	FireWire \$59 WebCode COM0260
---	--

Comsol USB to Bluetooth Adapter

A quick and easy solution for users wanting to add Bluetooth capability to their computer. It plugs directly into your USB port and enables wireless connectivity with Bluetooth devices including mobile phones PDAs printers and other computers.



\$89 WebCode COM0665

Comsol USB 2.0 Hubs

Add high-performance USB 2.0 peripherals such as scanners, digital cameras etc. True Plug and Play with no software required for easy installation. Available in Pocket and Desktop versions. Compliant with the USB 2.0 specifications and permits you to connect up to a maximum of 127 USB devices to your PC through daisy-chain.



4 Port Pocket Hub \$55 WebCode COM0160	4 Port Desktop Hub \$55 WebCode COM0170
---	--

Comsol USB 2.0 QuickLink 5-in-1 Cable

The Comsol USB 2.0 5-in-1 QuickLink Cable ensures you will always have the right connection. Designed for the mobile traveller, the QuickLink cable provides you with 5 different USB cable configurations for all your USB peripherals.

- Detachable Connectors for added convenience
- Foil and Braid Shielding to reduce EMI/RFI interference
- Includes connector carry case for convenient storage



\$28 WebCode COM0072

Comsol ServerLink Slim Desktop KVM

ServerLink Slim Desktop KVM The ServerLink Slim Desktop KVM Switch is designed to let you control two or four PS/2 type computers using one keyboard, monitor and mouse. With its slim size and ease of operation, it is an indispensable device for managing multiple PCs on your SOHO or Corporate desktop. With its slim size and lightweight design fits comfortably anywhere on your desktop.

- SL-281-P (COM0094) **\$105**



SL-481-P \$175 WebCode COM0099

Comsol SL-1000 ServerLink IP Remote Access Device

Access your servers from anywhere in the world! The ServerLink IP allows network administrators to manage, configure, troubleshoot and even reboot remote servers from any web browser.



\$1225 WebCode COM0096

Sennheiser HD457 Open Dynamic Hi-Fi Stereo Headphones

The HD 457 are open, dynamic hi-fi stereo headphones for both mobile audio sources such as MP3, MiniDisc & CD players and home hi-fi systems. Soul, funk, grunge and percussion music can be heard to its best advantage due to the headphones balanced sound image and warm bass. When out and about, a convenient cord take-up lets you adjust the headphone cable to the required length.



\$82

WebCode SNH0013

Sennheiser HD212PRO Closed Stereo Monitoring Headphone

The HD 212 Pro closed dynamic hi-fi stereo headphones have a balanced sound image with a slight emphasis on the bass response. DJs will like their excellent attenuation of ambient noise and the soft, comfortable ear pads.



\$110

WebCode SNH0006

Sennheiser HD497 Open Dynamic Hi-Fi Stereo Headphones

Delivers crystal-clear, well-defined trebles and absolute precision across all audio frequencies. These versatile headphones are especially impressive with jazz and modern, bass-driven music. The HD 497 feature rugged design and easily replaceable parts for long life, such as the OFC connection cable or ear pads. The HD 497 are ideal for hi-fi systems but also for portable players.



\$143

WebCode SNH0019

Belkin SurgeMaster

A power surge or lightning strike can destroy your electronic equipment in an instant. The SurgeMaster range offers the best protection for all your sensitive electronic devices in your home or office. No amount of thunder and lightning will ever be able to scare away your protection. Be safe and smart; choose a SurgeMaster with telephone/data line protection and if you want to protect your AV equipment with coaxial connection, choose the surge protector that protects both.

WebCode	Product Description	Price
BEL0244	Belkin Home Series Surge Cube	\$27
BEL0245	Belkin Home Series Surge Cube with Tel	\$35
BEL0247	Belkin Home Series 4-Way (2m Cord)	\$49
BEL0248	Belkin Home Series 4-Way (2m Cord) plus AV	\$66
BEL0250	Belkin Superior Series 6-Way (2m Cord) plus Tel	\$99
BEL0251	Belkin Superior Series 6-Way (2m Cord) plus Tel plus AV	\$115
BEL0253	Belkin Gold Series 7-Way (3m Cord) plus Tel plus AV plus RJ45	\$149
BEL0255	Belkin Gold Series 8-Way (2m Cord) plus Tel	\$129
BEL0256	Belkin Gold Series 8-Way (2m Cord) plus Tel plus AV	\$145



Belkin Mini-Wireless Optical Mouse

Perfect for the mobile professional. Take it on the road and use its optical precision on virtually any surface - anywhere you use your laptop. Works on your notebook computer from as far as 3 feet away.



\$59

WebCode BEL0148

Belkin Wireless Keyboard & Optical Mouse

Uses digital radio technology to give you the luxury of using your keyboard and mouse anywhere within six feet of the receiver. No more cables to clutter your desktop. The mouse uses optical technology to deliver accurate signals from smooth, easy movements. Access the Internet and favorite applications using the seven multimedia keys and seven hot keys.



\$55

WebCode BEL0163

Belkin Bluetooth Mobile Hands-Free Headset

The Bluetooth Hands-Free Headset from Belkin features a lightweight (less than 20 grams), boomless design engineered to deliver enhanced audio clarity. Includes a desktop charging stand to ensure your headset is always charged, ready for use.



\$99

WebCode BEL0274

Belkin 2 Port USB KVM Switch with Cables + Audio

Control 2 computers using just one keyboard, monitor and mouse with this simple USB KVM switch that includes 8 ft cables and supports resolutions up to 2048 x 1536.



\$98

WebCode BEL0272

Belkin Complete Mobility Bundle

Belkin's Complete Mobility Bundle is designed to meet the needs of all mobile professionals. It represents a necessary addition to any notebook solution and includes the Belkin NE MC Notebook bag, minicrooller mouse and 4 port hub all in the one pack at a value price.



Great Value!

\$70

WebCode BEL0047

Belkin TuneCast II Mobile FM Transmitter

The Belkin TuneCast II acts as an FM transmitter. Simply connect the TuneCast to the 'audio out' on your selected device, tune your FM Stereo into your chosen frequency, and listen to your media songs on your radio. Great for dinner parties! No need to change your CD on your stereo. Simply hit play on your play list and listen for hours on your stereo.



\$77

WebCode BEL0271

Belkin Hi-Speed USB 2.0 7-Port Hub

Belkin's Hi-Speed USB 2.0 7-Port Hub features two top-loading downstream USB ports. Now you can enjoy fast access for temporary device connections such as USB thumb drives, media readers and for USB lights, fans and other accessories. Monitoring your device activity is simpler than ever with LEDs for master power status and all port activity.



\$72

WebCode BEL0263

Belkin USB 2.0 Hi Speed 15-in-1 Media Reader/ Writer with 3 port USB 2.0 hub

Connect up to 3 USB 2.0 devices to your computer whilst also transferring files from virtually any type of media. The new 15 in 1 media reader/writer from Belkin supports all popular types of media. The built-in USB 2.0 hub allows you to connect 3 additional USB 2.0 devices to your computer. Supports all popular types of media including XD.



\$88

WebCode BEL0362

Belkin Universal 800VA UPS

The 800VA offers protection for your computer against surges, spikes, blackouts and lightning strikes. It features serial and USB Ports, 4 battery backup sockets with surge protection, a \$150,000 connected equipment warranty. When the power goes off the computer stays on! Also available in 1000va & 1200va models.



\$456

WebCode BEL0165

ThermalTake Shark 400W PSU Silver

The Gamers Choice! Full Tower Aluminium Case with honeycomb see-through side panel. Features include removable MicroATX and ATX motherboard tray for easy installation, dual 12cm case fans and lockable front and side panel for added security. Case comes with a ThermalTake 400Watt Power Supply Available in Black or Silver.

ThermalTake Shark 400W PSU Black
(TTK0001) \$264



Shark Case Silver
WebCode TTK0002 **\$264**

ThermalTake Soprano 400W PSU Silver

Stylish but conservative Gamers case! Mid-Tower Aluminium Case with transparent "X" side panel. Features include dual 12cm plus 9cm case fans and lockable front and side panel for added security. Tool free assembly with screwless slots, thumbscrews and patented sliding rail design for 5.25" devices. Available with or without window side panel. Case comes with a ThermalTake 400Watt power supply, available in black or silver.

ThermalTake Soprano 400W PSU Black
(TTK0005) \$199

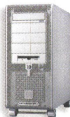


Soprano Case Silver
WebCode TTK0005 **\$199**

Lian Li Aluminium Mid Tower PC Case Silver

Top of the range, full aluminium PC Case from the leading manufacturer of Aluminium cases, Lian Li. These cases have been renowned for many years for their excellence in quality & workmanship. The V1000 mid-tower cases are feature rich with mesh style panels, aluminium castors & unique bottom PSU compartment designs.

Aluminium Mid Tower PC Case Black
(LI10001) \$339



V1000 Case Silver
WebCode LI10004 **\$339**

Lian Li Aluminium Full Tower PC Case Silver

The V2000 full tower cases combine the same features as the V1000 cases but with more room. Ideal for servers or high end PC machines. More expansion slots with 7 x 5.25" bays & 12 x 3.5" internal bays and also supplied with universal CD/DVD & FDD bezels to hide those multi coloured drives.

Aluminium Full Tower PC Case Black
(LI10003) \$420

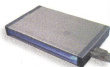


V2000 Case Silver
WebCode LI10002 **\$420**

I-Rocks 2.5" USB 2.0 HDD Enclosures Silver

Notebook hard disc drive (HDD) enclosure for a cost effective portable storage solution. Easy installation with screw-free design. Lightweight aluminium alloy housing with anodised surface for effective heat dissipation.

2.5" USB 2.0 HDD Enclosures Black
(IRS0006) \$66



WebCode IRS0019 **\$66**

Welland 3.5" USB 2.0 HDD Enclosure

Easy installation of IDE Hard Disc for high capacity storage. Plug and play and hot swappable supported. LED indicator. Available in USB 2.0, USB 2.0 + Firewire, USB 2.0 + Firewire 2 interfaces. Win and Mac.

3.5" USB 2.0/IEEE 1394 (WLD0004) \$77

3.5" USB 2.0/IEEE 1394B (WLD0005) \$165



WebCode WLD0003 **\$66**

Welland 3.5" Serial ATA HDD Enclosure

Easy installation of Serial ATA HDD for high capacity storage. External SATA connection.

- SATA to SATA
- 30W external Power Supply
- Solid aluminium body
- Led indicator
- Quick and easy installation
- Stackable casing
- Dim: 198 x 125 x 33mm(LWH)



WebCode ANY0120 **\$72**

AI Tech 2.5" Portable Multimedia Player

The perfect portable entertainment box. The MG-25 supports DivX and MPEG4 playback. Music and Video can be transferred via USB 2.0 from your PC to the box. Connect to a TV for instant playback with high quality display and stereo sound (supports 5.1CH). Compact size measuring 80x148x24mm and light at 160g (without HDD). Supports output resolutions of 720x480p 1280x720p, and 1920x1080i (HDTV). Remote control included. Requires a 2.5" notebook hard drive. (20GB recommended)

Car Power Adaptor for MG25
(ANY0053) \$30

Carry Bag for MG25
(ANY0121) \$15



WebCode ANY0023 **\$185**

Aten 8 Port Video Switch

Display the output of 8 separate computers onto one monitor or projector. Ideal for sales presentations where presentations are required by each representative. Also suitable for classroom/assignment presentations. Each computer simply connects to the base unit via the VGA port. Switching between computers is easily done via push buttons on the unit or remote control (included).



WebCode ANY0131 **\$155**

ThermalTake 480W PSU with Wattage Meter

Monitor your system's power consumption. Monitor and adjust case fan speeds to sort problems within the system. PSU comes with dual connectors SATA and a 20- to 24pin adaptor for server motherboards. Added power efficiency with PFC (Power Factor Correction).



\$175
WebCode TTK0007

ThermalTake Beetle Heatpipe CPU Cooler

Funky high performance, low noise CPU cooler utilising heatpipe technology. Compatible with AMD K7 & K8 and Intel P4 & LGA 775. Full copper base with aluminium fins, Fan speed control, UV color, blue LED and flash lights.



\$55
WebCode TTK0008

ThermalTake Extreme Universal CPU Cooler

High performance CPU cooler with high density, full copper heat sink. Extreme 3-in-1 cooler for AMD K7 & K8 and Intel P4 processors. Ideal for gaming and overclocking. 21dBA at 2000RPM, 48dBA at 5500RPM.



\$55
WebCode TTK0009

Aten KVM Console Extender

Have your PC in a controlled environment like an air conditioned office up to 150m away. Control warehouse logistics from a safe environment, minimising damage to expensive PC equipment. Devices use standard network CAT5 cable. CE-220 for PS/2 computers. CE-700 for USB computers.

KVM USB Console Extender (ANY0122) \$480



\$320

WebCode ANY0122

Aten Video Extender

Economical solution to extending display/video signal up to 130m away. Utilises inexpensive CAT5 network cabling. Kit includes a Local and Remote unit. Support VGA, SVGA & Multisync display. VGA resolution support of up to 1600x1200@100m/640x480@130m.



\$380

WebCode ANY0131

i-Rocks USB Keypad plus 2Port Hub

Compact and stylish USB numeric keypad—an ideal accessory for accountants, auditors or if you are tired of your cramped notebook keyboard. White, crystal like finish with a bonus integrated 2 port USB hub to attach a keyboard and mouse. Lightweight for easy storage and portability in your notebook bag.



\$39

WebCode IRS0014

Aten 16 Port KVM Over-IP Enterprise Switch

Enterprise KVM over the Net Rack mountable Switch. Control/Monitor both locally and remotely up to 16 computers or servers. Utilises TCP/IP for its communications protocol, enabling access from any computer over the Net. High security features include password protection and advanced encryption technologies. On Screen Display for convenient, user friendly operation.



\$2000

WebCode ANY0133

Aten 2 Port Video Splitter 250Mhz

Ideal solution for training or presentation scenarios where you need to display what's on your monitor onto a Projector or another monitor. Supports XGA, SVGA, VGA and multisync monitors with transmission distances up to 65m.

4 Port Video Splitter 250Mhz (ANY0138) \$77

8 Port Video Splitter 200Mhz (ANY0139) \$99



\$55

WebCode ANY0137

Aten DVI 2 Port KVM Switch

Utilise only 1 set of Keyboard, Monitor & Mouse to access multiple PCs or Servers. Ideal for training on multiple OS or for multiple server admin and maintenance while also sharing 2 other USB peripheral devices like Printers or Scanners. Support for USB and DVI-Digital and DVI-Analog & Audio. Compatible with Windows and Mac.

Aten DVI 4 Port KVM Switch (ANY0141) \$355



\$285

WebCode ANY0140

Aten 2 Port KVM Switch

Utilize only 1 set of Keyboard, Monitor & Mouse to access multiple PCs or Servers. Ideal for technical workbenches for testing PCs, training on multiple OS or for multiple server admin and maintenance.

CS-82/84A—desktop versions. PS/2 and VGA connections, cables supplied.

CS-9138 — desktop/rack mountable version, PS/2 and VGA connections, no cables supplied. Cascadable to control 512 computers using front panel buttons, hotkeys or On Screen Display.

Aten 4 Port KVM Switch (ANY0135) \$165

Aten 8 Port KVM Switch—Rackmountable (ANY0136) \$490



\$115

WebCode ANY0134

Aten 2 Port Peripheral Sharer Switch

Ideal for Small Office or Home Office with no existing network infrastructure, or for peripheral, like printers that are not networkable. Share a single USB peripheral (printer/scanner) with either 2 or 4 computers. Sharing is exclusive to computer i.e. one-at-a-time basis.

Aten 4 Port Peripheral Sharer Switch (ANY0143) \$60



\$45

WebCode ANY0142

i-Rocks Hub/Reader Combo - Blue

Combination 3 Port USB 2.0 Hub plus Memory Card Reader. Compact design for easy storage. Reads most memory card types and true plug and play/hot swappable for easy use and store away. Fast transfer rates with USB 2.0 of 480Mbps. Supplied with Carry bag.

i-Rocks Hub/Reader Combo - Black (IRS0015) \$60

i-Rocks Hub/Reader Combo - Red (IRS0017) \$60

i-Rocks Hub/Reader Combo - Silver (IRS0018) \$60



\$60

WebCode Blue IRS0016

i-Rocks USB 2.0 12-in-1 Reader - Red

Multi format memory card reader that reads and writes to Compact Flash(CF), Smart Media(SM), Multimedia Cards(MMC), Secure Digital(SD), Micro Drive, Memory Stick & Memory Stick Pro. Download images from your memory card and store onto your PC for burning to CDs or simply email to family and friends.

i-Rocks USB 2.0 12-in-1 Reader - Silver (IRS0012) \$42



\$42

WebCode Red IRS0013

i-Rocks Miniop Black USB Mouse

Compact and stylish optical mouse—a necessary notebook companion for every business traveller. Stylish design with precise accuracy of 800dpi resolution. Optical technology for functionality on many surfaces. Other features include Retractable cable for easy storage, adaptor for PS/2 or USB connection. Compact size: 90x52x33mm.

i-Rocks Miniop Blue USB Mouse (IRS0009) \$19

i-Rocks Miniop Red USB Mouse (IRS0010) \$19

i-Rocks Miniop Silver USB Mouse (IRS0011) \$19



\$19

WebCode Black IRS0008

i-Rocks 4P USB 2.0 Silver HUB W/Power

If you need to plug in more USB devices into your PC, but don't have enough ports then you need one of these 4 port hubs. Aluminium casing with elegant hair-line surface treatment. Smart and compact in size with Blue LED on logo indicating power status. True Plug and play with fast transfer rates of 480Mbps with USB 2.0.

i-Rocks 4P USB 2.0 Red Hub W/Power (IRS0004) \$32

i-Rocks 4P USB 2.0 Black Hub W/Power (IRS0005) \$32



\$32

WebCode Silver IRS0003

**Imation
CD-RW neon 10 Pack &
CD-R 52x 10 Pack**



Imation CD & DVD Media

Imation CD-R, CD-RW and DVD Media have a high-quality dye layer that ensures lower failure rates. Each disc is tested to meet Imation's exacting standards to protect against the toughest environmental conditions.

WebCode	Product Description	Price
MMM1050	Imation CD-R 52x 700MB/80Min 10 Pack Slim Case	\$8
MMM1915	Imation CD-R 40x Neon 50 Pack Spindle	\$27
MMM1926	Imation CD-R 40x 700MB/80Min Neon 25 Pack Spindle	\$14
MMM1926	Imation CD-RW 10x-24x 700MB/80Min Ultra Speed 25 Pack Spindle	\$37
MMM1917	Imation CD-RW 4x-10x 700MB/80Min Neon 10 Pack	\$20
MMM1921	Imation CD / DVD Coloured Slim Jewel Cases 50 Pack	\$17
MMM1921	Imation DVD-R 4x 50 Pack Spindle White Inkjet Printable	\$64
MMM5683	Imation DVD-R 4x 25 Pack Spindle	\$32
MMM5683	Imation DVD-R 4x 25 Pack Spindle	\$30
MMM0804	Imation DVD+R 2.4x Dual Layer	\$10

**Imation DVD-R
Slim Movie
Cases**

Imation DVD-R Media is now available in Slim Movie Cases. New Slim Movie Cases are half the thickness of traditional cases, meaning you can store more than ever before. Record movies, create interactive training, back up or archive massive amounts of data. DVD media is the next generation data storage solution.



\$15

WebCode MMM5910

**Imation
CD-R 50+5 Spindle
CD-R 100+10 Spindle
DVD-R 25+2 Spindle**



Imation Bonus Spindle Promotion!

Instantly be rewarded with Bonus Media when you purchase selected Imation products!

WebCode	Product Description	Price
MMM0014	CD-R 52x 700MB/80Min 50 + 5 Bonus Spindle Pack	\$25
MMM0020	CD-R 52x 700MB/80Min 100 + 10 Bonus Spindle Pack	\$46
MMM0050	DVD-R 8x 4.7GB 25 + 2 Bonus Spindle Pack	\$28
MMM0051	DVD+R 8x 4.7GB 25 + 2 Bonus Spindle Pack	\$28

**Hurry!
While Stocks Last**

**Imation 128MB USB
2.0 Flash Drive
\$48**



Imation USB 2.0 Flash Drive

The Imation USB 2.0 Flash Drive is a compact, powerful flash drive. Featuring a unique "never lose the cap" swivel design to give you the sophisticated, professional look you seek from your personal technology. Weighing only 30 grams, the drive fits easily around your neck. In your pocket or briefcase giving you convenient access to your drive, anytime, anywhere you are. Featuring lightning fast USB 2.0 drive speed, data can be read up to 8MB/second and written up to 7MB/second - saving you valuable time when transferring, sharing or storing your critical data.

WebCode	Product Description	Price
MMM5886	Imation 128MB USB 2.0 Flash Drive	\$48
MMM5887	Imation 256MB USB 2.0 Flash Drive	\$75
MMM5888	Imation 512MB USB 2.0 Flash Drive	\$125
MMM5559	Imation 1GB USB 2.0 Flash Drive	\$210
MMM3694	Imation 2GB USB 2.0 Flash Drive	\$399

Imation CD-RW and DVD Drives

Whether you choose CD or DVD to backup, Imation have the Optical Drive to suit your needs! Now you can create your own digital masterpieces and share them with ease. All drive kits come complete with everything you need to get started, including the latest software.

WebCode	Product Description	Price
MMM0060	Imation CD-RW Drive Internal 52x32x52	\$52
MMM0030	Imation DVD Dual Layer 16x8x4x2.4 Internal Drive	\$175

**Imation DVD Dual
Layer 16x8x4x2.4
Internal Drive
\$175**



Imation 4mm, DLT, LTO & SDLT Tape Cartridges

WebCode	Product Description	Price
MMM3441	Imation Data Tape 4mm 125m DD-5	\$11
MMM3804	Imation Data Tape 4mm 150m DD-5	\$17
MMM3430	Imation Data Tape DLT IV 2080GB (drive dependent)	\$44
IMA0105	Imation Data Tape Super DLT 160/320GB (drive dependent)	\$75
MMM3438	Imation Data Tape LTO Ultrium 100/200GB (drive dependent)	\$45
IMA1240	Imation LTO Ultrium Gen 2 200/400GB Cartridge	\$89

**Imation Data Tape
Super DLT 160/320GB
\$75**



**Imation Disc
Stakka**

The Imation Disc Stakka is an automated carousel that gives you a simple and efficient way to manage and protect your disc library. Each unit stores and protects up to 100 data CDs, DVDs, music or game discs and links to your computer via a USB connection. The bundled OpdTracker software enables you to search its database of stored discs by title, keyword, directory or file name to find and eject any disc within seconds.



\$171

WebCode MMM1214

**Imation DVD
Dual Layer
16x8x4x2.4
External Drive**

The new Imation Dual Layer burner is a breakthrough. You can put 8.5GB storage capacity on a DVD disc, without needing to turn it over. This equates to four hours of DVD-quality video or 16 hours of VHS-quality video. DVD+R is 16x. DVD+RW is 4x. DVD-R is 8x. DVD-RW is 4x. DVD+R DL is 2.4x.



\$232

WebCode MMM1889



Altec Lansing 221 Speaker

This 3-piece system is a sturdy system for music and gaming that fits on your desktop and within your budget.

- 50 Watts of System Power
- 25 Watts RMS
- Compact Subwoofer
- Built-In Controls
- Headphone Jack
- Quality Stereo


\$89

WebCode AL70002

Logitech X-530 Speakers

Plug the Logitech X-530 into your PC, music player, DVD player, or even your PlayStation or Xbox game console and immerse yourself in clean, crisp, consistent surround sound from your games, movies, and more. The high-tech subwoofer adjusts itself dynamically to deliver distortion-free bass. And the five wall-mountable satellite speakers use Logitech's patented FDD2TM technology.


\$110

WebCode LOG3453

Creative GigaWorks 5750

Creative GigaWorks 5750 embodies the power of speaker technology with its distinguished capabilities that affirm it as a top-of-class performer. Designed for DVD, gaming and AV enthusiasts, this is the first THX certified 7.1 multimedia speaker system that features Titanium Supertweeters which extend high frequency suitable for DVD audio playback.


\$869

WebCode CRE0006

HP DeskJet Cartridges

WebCode	Product Description	Price
HPD2023	HP Ink Cartridge No 15 Black for DJ 810B/12/840/845 - C6615DA	\$71
HPD2024	HP Ink Cartridge No 45 Black for DJ 710C/720C/830C - C1645AA	\$71
HPD2025	HP Ink Cartridge No 56 Black for DJ 5550 - C6656AA	\$44
HPD4844	HP Ink Cartridge No 10 Black for DJ 2000/2500C - C4844AA	\$43
HPG4836	HP Ink Cartridge No 11 Cyan for DJ 500/800 - C4836AA	\$43
HPG4837	HP Ink Cartridge No 11 Magenta for DJ 500/800 - C4837AA	\$43
HPG4838	HP Ink Cartridge No 11 Yellow for DJ 500/800 - C4838AA	\$43
HPD5002	HP Ink Cartridge No 14 Black - C5011DA	\$33
HPD5001	HP Ink Cartridge No 14 Colour - C5010DA	\$44
HPD6645	HP Ink Cartridge No 15 Black for DJ 810C/812C/840C/845C - C6615DA	\$38
HPD6652	HP Ink Cartridge No 17 Colour for DJ 840/845 - C6652AA	\$41
HPD6654	HP Ink Cartridge No 20 Black for DJ 610C/630C/640C - C6614DA	\$38
HPD1826	HP Ink Cartridge No 23 Colour for DJ 610C/630C/640C - C1823DA	\$44
HPD9090	HP Ink Cartridge No 26 Black for DJ 400/420/500 - C5162AA	\$40
HPD8772	HP Ink Cartridge No 27 Black for DJ 3420 - C8727AA	\$25
HPD8782	HP Ink Cartridge No 28 Colour for DJ 3420 - C8728AA	\$29
HPD9050	HP Ink Cartridge No 29 Black for DJ 600/610/630C - C5162AA	\$40
HPD095	HP Ink Cartridge No 45 Black for DJ 710C/720C/830C - C1645AA	\$40
HPD0990	HP Ink Cartridge No 49 Colour for DJ 600/610C/630C - C1649AA	\$41
HPD6656	HP Ink Cartridge No 56 Black for DJ 5550 - C6656AA	\$27
HPD6657	HP Ink Cartridge No 57 Colour for DJ 5550C - C6657AA	\$44
HPD6658	HP Ink Cartridge No 58 Photo Colour for DJ 5550 - C6658AA	\$33
HPD9359	HP Ink Cartridge No 59 Grey Photo - C9359AA	\$35
HPD6578	HP Ink Cartridge No 78 Colour for DJ 900/1220C - C6578DA	\$44
HP1038	HP Ink Cartridge No 78 Large Colour for DJ 900/1220C - C6578AA	\$81

HP Mono LaserJet Toner Cartridges

WebCode	Product Description	Price
HPD2612	HP Toner Cartridge for LaserJet 1010/1015 - Q2612A	\$88
HPW001	HP Toner Cartridge for LaserJet 1100/3200 Series 2,500 Pages - C4092A	\$74
HPD2624	HP Toner Cartridge for LaserJet 1150 Series - Q2624A	\$89
HPD1117	HP Toner Cartridge for LaserJet 1200 Series 3,500 Pages - C7115X	\$96
HPD2614	HP Toner Cartridge for LaserJet 1300 Series 4,000 Pages - Q2613X	\$112
HPL4096	HP Toner Cartridge for LaserJet 2100/2200 Series 5,000 Page - C4096A	\$125
HPD2610	HP Toner Cartridge for LaserJet 2300 Series - Q2610A	\$150
HP620	HP Toner Cartridge for LaserJet 4/5 Series 6,000 Pages - 92298A	\$120
HPD4129	HP Toner Cartridge for LaserJet 4000 Series 10,000 Pages - C4127X	\$159
HPL8063	HP Toner Cartridge for LaserJet 4100 Series 10,000 Pages - C8061X	\$159
HPD1338	HP Toner Cartridge for LaserJet 4200 Series 12,000 Pages - Q1338A	\$191
HPL1339	HP Toner Cartridge for LaserJet 4300 Series - Q1339A	\$254
HPD4182	HP Toner Cartridge for LaserJet 8100 Series 20,000 Pages - C4182X	\$235
HPD543	HP Toner Cartridge for LaserJet 9000 Series 30,000 - C8543X	\$344
HP175	HP Toner Cartridge for LaserJet SP/MP/PS/PSMP Series - C3903A	\$102
HPD1115	HP Toner Cartridge for LaserJet 1200 Series 2,500 Pages - C7115A	\$77
HP741	HP Toner Cartridge for LaserJet 5/L Series - C3906A	\$77
HPD4131	HP Toner Cartridge for LaserJet 5000 - C4129X	\$204
HPL5949	HP Toner Cartridge for LaserJet 1160/1320 - Q5949A	\$89

HP Colour LaserJet Toner Cartridges

WebCode	Product Description	Price
HPL9700	HP Toner Cartridge for Colour LaserJet 1500/2500 Black - C9700A	\$104
HPL9701	HP Toner Cartridge for Colour LaserJet 1500/2500 Cyan - C9701A	\$125
HPL9703	HP Toner Cartridge for Colour LaserJet 1500/2500 Magenta - C9703A	\$125
HPL9702	HP Toner Cartridge for Colour LaserJet 1500/2500 Yellow - C9702A	\$125
HPL3960	HP Toner Cartridge for Colour LaserJet 2550 Black - C3960A	\$104
HPL3978	HP Toner Cartridge for Colour LaserJet 2550 Cyan - C3961A	\$125
HPL3981	HP Toner Cartridge for Colour LaserJet 2550 Magenta - C3962A	\$125
HPL3979	HP Toner Cartridge for Colour LaserJet 2550 Yellow - Q3962A	\$125
HPL2670	HP Toner Cartridge for Colour LaserJet 3500/3700 Black - Q2670A	\$165
HPL2671	HP Toner Cartridge for Colour LaserJet 3500/3700 Cyan - Q2671A	\$164
HPL2673	HP Toner Cartridge for Colour LaserJet 3500/3700 Magenta - Q2673A	\$164
HPL2672	HP Toner Cartridge for Colour LaserJet 3500/3700 Yellow - Q2672A	\$164
HPL9720	HP Toner Cartridge for Colour LaserJet 4600/4650 Black - C9720A	\$193
HPL9721	HP Toner Cartridge for Colour LaserJet 4600/4650 Cyan - C9721A	\$262
HPL9723	HP Toner Cartridge for Colour LaserJet 4600/4650 Magenta - C9723A	\$262
HPL9722	HP Toner Cartridge for Colour LaserJet 4600/4650 Yellow - C9722A	\$262
HPL9730	HP Toner Cartridge for Colour LaserJet 5500 Black - C9730A	\$279
HPL9731	HP Toner Cartridge for Colour LaserJet 5500 Cyan - C9731A	\$392
HPL9733	HP Toner Cartridge for Colour LaserJet 5500 Magenta - C9733A	\$392
HPL9732	HP Toner Cartridge for Colour LaserJet 5500 Yellow - C9732A	\$392

Visit www.csw.com.au for the full range of the above listed brands and other popular brands including Kyocera-Mita, Brother, Fuji Xerox and Samsung.

1300 658 600


Canon Ink Cartridges

WebCode	Product Description	Price
BC13EBK	Canon Ink Cartridge for BJ 3000/5400/5400SP Black - BC13EBK	\$19
BC13EC	Canon Ink Cartridge for BJ 3000/5400/5400SP Cyan - BC13EC	\$16
BC13EM	Canon Ink Cartridge for BJ 3000/5400/5400SP Magenta - BC13EM	\$16
BC13EY	Canon Ink Cartridge for BJ 3000/5400/5400SP Yellow - BC13EY	\$16
CAN0010	Canon Ink Cartridge for BJ 4000/4100/4550 Black - BC12BK	\$13
CAN0011	Canon Ink Cartridge for BJ 4000/4100/4550 Colour - BC12C	\$29
CAN0066	Canon Ink Cartridge for BJ 5200SP/250/3300/320/350/450/4700 Black - BC124BK	\$13
CAN0155	Canon Ink Cartridge for BJ 5200SP/250/3300/320/350/450/4700 Black Twin - BC124	\$44
CAN0164	Canon Ink Cartridge for BJ 5200SP/250/3300/320/350/450/4700 Colour Twin - BC124	\$44
CAN0052	Canon Ink Cartridge for BJ 5200SP/250/3300/320/350/450/4700 Colour - BC124C	\$25
CAN0048	Canon Ink Cartridge for BJ 5800/5820/5830/5900/5910/9900/9950 Black - BC16BK	\$22
CAN0050	Canon Ink Cartridge for BJ 5800/5820/5830/5900/5910/9900/9950 Cyan - BC16C	\$22
CAN0051	Canon Ink Cartridge for BJ 5800/5820/5830/5900/5910/9900/9950 Magenta - BC16M	\$22
CAN0053	Canon Ink Cartridge for BJ 5800/5820/5830/5900/5910/9900/9950 Yellow - BC16Y	\$22
CAN0049	Canon Ink Cartridge for BJ 5800/5820/5830/5900/5910/9900/9950 Photo Cyan - BC16PC	\$22
CAN0052	Canon Ink Cartridge for BJ 5800/5820/5900/5900/950/9100 Photo Mag - BC16PM	\$22
CAN0200	Canon Ink Cartridge for BJ 170 Black - BC115BK	\$40
CAN0210	Canon Ink Cartridge for BJ 170 Colour - BC115C	\$40
ISWCAN064	Canon Ink Cartridge for BJ 210/210SP/240/255SP/265SP/1000SP Colour - BC05	\$38
ISWCAN236	Canon Ink Cartridge for BJ 210SP/255SP/265SP/1000SP Black - BC03	\$38
CO058	Canon Ink Cartridge for BJ 5100SP/2000SP/4000/4100/4550/5045/5500 Black - BC20	\$29
CAN0011	Canon Ink Cartridge for BJ 5100SP/4000/4100/4550/MPC50/70/75 Colour - BC12C	\$29



Epson Ink Cartridges

WebCode	Product Description	Price
EPA1040	Epson Ink Cartridge for Stylus C41UX/SX/CX43UX/SX Black - T038	\$15
EPA1041	Epson Ink Cartridge for Stylus C41UX/SX/CX43UX/SX Colour - T039	\$15
EPA0060	Epson Ink Cartridge for Stylus C6061 Black - T028	\$36
EPA0051	Epson Ink Cartridge for Stylus C6061 Colour - T029	\$32
EPA0190	Epson Ink Cartridge for Stylus C63/C83 Black - T0461	\$18
EPA0290	Epson Ink Cartridge for Stylus C63/C83 Cyan - T047290	\$12
EPA0390	Epson Ink Cartridge for Stylus C63/C83 Magenta - T047390	\$12
EPA0490	Epson Ink Cartridge for Stylus C63/C83 Yellow - T047490	\$12
EPA0111	Epson Ink Cartridge for Stylus C70/C80/C82 Black - T032190	\$35
EPA0702	Epson Ink Cartridge for Stylus C70/C80 Cyan - T032290	\$18
EPA0703	Epson Ink Cartridge for Stylus C70/C80 Magenta - T032390	\$18
EPA0704	Epson Ink Cartridge for Stylus C70/C80 Yellow - T032490	\$18
EPA0712	Epson Ink Cartridge for Stylus C82 Cyan - T042290	\$17
EPA0713	Epson Ink Cartridge for Stylus C82 Magenta - T042390	\$17
EPA0714	Epson Ink Cartridge for Stylus C82 Yellow - T042490	\$17
EPA1305	Epson Ink Cartridge for Stylus 400/60/640 Colour - T050190	\$28
EPA0212	Epson Ink Cartridge for Stylus 400/60/800 Colour - T052090	\$27
EPA0890	Epson Ink Cartridge for R210/R310/RX510 Black - T0491	\$17
EPA0511	Epson Ink Cartridge for R210/R310/RX510 Cyan - T0492	\$17
EPA0514	Epson Ink Cartridge for R210/R310/RX510 Light Cyan - T0495	\$17
EPA0515	Epson Ink Cartridge for R210/R310/RX510 Light Magenta - T0496	\$17
EPA0512	Epson Ink Cartridge for R210/R310/RX510 Yellow - T0493	\$17
EPA0513	Epson Ink Cartridge for R210/R310/RX510 Yellow - T0494	\$17
EPA0810	Epson Ink Cartridge for Stylus 810/830/925/935 Black - T026	\$29
EPA0811	Epson Ink Cartridge for Stylus 810/830/925/935 Colour - T027	\$27
EPA404	Epson Ink Cartridge for Stylus 870/890/895/1270/1290 Black - T007	\$30
EPA1270	Epson Ink Cartridge for Stylus 1270/1290 Colour - T009	\$30



Lexmark Toner Cartridges

WebCode	Product Description	Price
LEX9481	Lexmark Toner Cartridge for Optra T 25k - 12A5845	\$432
LEX5224	Lexmark Toner Cartridge for Optra T 52k - 12A6835	\$432
LEX6223	Lexmark Toner Cartridge for Optra T 62k - 12A6865	\$432
LEX9642	Lexmark Toner Cartridge for Optra T 632/634 - 12A7465	\$448
LEX9639	Lexmark Toner Cartridge for Optra T 630/632 - 12A7462	\$432



Konica Minolta Toner Cartridges

WebCode	Product Description	Price
QMS2301	Konica Minolta Toner Cartridge for 2300W - Yellow	\$84
QMS2302	Konica Minolta Toner Cartridge for 2300W - Magenta	\$84
QMS2303	Konica Minolta Toner Cartridge for 2300W - Cyan	\$84
QMS2304	Konica Minolta High Capacity Toner Cartridge for 2300W - Black	\$120
QMS2305	Konica Minolta High Capacity Toner Cartridge for 2300W - Yellow	\$181
QMS2306	Konica Minolta High Capacity Toner Cartridge for 2300W - Magenta	\$181
QMS2307	Konica Minolta High Capacity Toner Cartridge for 2300W - Cyan	\$181
QMS2403	Konica Minolta Toner Cartridge For 2400W - Cyan	\$84
QMS2402	Konica Minolta Toner Cartridge For 2400W - Magenta	\$84
QMS2401	Konica Minolta Toner Cartridge For 2400W - Yellow	\$84
QMS2404	Konica Minolta High Capacity Toner Cartridge For 2400W - Black	\$128
QMS2407	Konica Minolta High Capacity Toner Cartridge For 2400W - Cyan	\$192
QMS2406	Konica Minolta High Capacity Toner Cartridge For 2400W - Magenta	\$192
QMS2405	Konica Minolta High Capacity Toner Cartridge For 2400W - Yellow	\$192

GFXX FX5200 128MB DDR DVI/TV ACPx8 Graphics Card

- Graphics Core: 256-bit <
- Pixels Per Clock (peak): 4
- Textures per pixel (max per pass) 16
- Effective Memory Clock: 333MHz
- RAMDACs: Dual 350MHz



\$105

WebCode XFX0003

XFX GF6600 256MB DDR DVI/TV/AGP Graphics Card

- GPU Core: 256bit
- Memory Interface: DDR
- RAMDACs: 400 MHz
- Microsoft® DirectX® 9.0 Shader Model 3.0 Support



\$325

WebCode XFX0002

XFX GF6800GT 256MB DDR3 DVI/DVI/TV Graphics Card

- Memory Interface: 256-bit
- Memory Bandwidth (GB/sec): 32.0
- Fill Rate (billion texels/sec.): 5.6
- Vertices/sec. (million): 525
- Memory Data Rate: 1000
- Pixels per clock (peak): 16
- Textures per pixel (max in a single rendering pass): 16
- RAMDACs (MHz): 400



\$750

WebCode XFX0001

Genuine Printer Supplies

RENT SMART
Because buying isn't

SEE PAGE 3 FOR DETAILS

Absolute Beginner's Guide to Home Networking

You want to network your home but where do you start? Network your life, not just your computers! The perfect read for those starting out.



Book-Paperback
\$28

WebCode PGN0015

Complete Wireless Home Networking

An all-in-one guide that covers every angle of home wireless networking - from product selection to implementation and maintenance.

- Targets home wireless networking, explaining how to add wireless devices of all types, it also has a section for the best free advice on the Web.



Book-Paperback
\$32

WebCode PGN0014

Home Networking: A Visual Do It Yourself Guide

Looking to network your entire home? This is one of the only networking books you'll ever need!

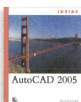


Book-Paperback
\$37

WebCode PGN0017

Inside AutoCAD 2005

Fantastic for students or for those looking to sharpen their skills. This all-in-one reference/tutorial guides student and veteran AutoCAD users alike through the features and workflow enhancements of the latest version!



Book-Paperback
\$60

WebCode PGN0046

The Photoshop Elements 3 Book for Digital Photographers

The software is one of the most sought after photo editing packages around - now get the book on how to take advantage of the features! Edit images like a pro in this Photoshop Elements 3 handbook for digital photographers from best-selling author Scott Kelby.

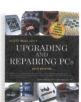


Book-Paperback
\$51

WebCode PGN0045

Upgrading and Repairing PCs, 16E

The DEFINITIVE book on PC hardware upgrading and repairing - found on more desktops of PC hardware professionals than any other book!



Book-Paperback
\$88

WebCode PGN0021

The Concise Penguin Dictionary of Computing

This highly accessible dictionary is the ideal source of information on all aspects of the world and language of computers. Covering terms from A20 gate to Zip drive, via floppy disk, matrix and Word for Windows, The Concise Penguin Dictionary of Computing will be invaluable not only to experts, including programmers and engineers, but to anyone who owns or uses a computer and wishes to improve their skills.



Book-Paperback
\$23

WebCode PGN0014

Macromedia Director MX 2004 for Windows

Completely revised and updated for Macromedia Director MX 2004 with a new chapter on using JavaScript in Director. Quickly gets readers up-to-speed on all of the product's new features, including JavaScript support, cross-platform publishing, Flash MX 2004 integration, Windows Media support, and DVD-Video capabilities.



Book-Paperback
\$32

WebCode PGN0027

Easy Digital Home Movies

- Millions of digital video cameras are sold annually, and new users need guidance on producing home videos.
- This book not only covers Windows Movie Maker 2 (free to 50 Million+ Windows XP users), but also covers general movie making skills.
- The reader visually learns how to edit and distribute digital home movies.
- Addresses the most common problems users will face.



Book-Paperback
\$28

WebCode PGN0030

The Computer Book: Windows XP Edition

Updated to cover Windows XP, The Computer Book is a comprehensive guide to every aspect of using a home computer.

- Contents include eight Essential Computers titles for the same purchase price as four individual titles.
- Screen-grabs and simple step-by-step tutorials clearly show you how to use most PC programs.

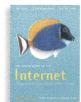


Book-Paperback
\$46

WebCode PGN0010

The Rough Guide to the Internet

10 years, 10 editions: the multi-million-selling Internet book has come of age and is still the ultimate handbook for novices and experts alike. Written in plain English, it covers everything from getting online for the first time to advanced tips and tricks guaranteed to turn casual surfers into Net gurus. Whether you've never sent an email or you want to keep up with the latest developments, you need this book.

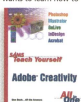


Book-Paperback
\$14

WebCode PGN0020

Adobe Creative Suite All in One: Teach Yourself

Sams Teach Yourself Adobe Suite All in One has all the answers for beginning users of Adobe's graphics products in one big, easy to use book. It doesn't assume the reader wants to learn how to use just one product, but covers multiple products and technologies together in a logical, well-integrated fashion.



Book-Paperback
\$56

WebCode PGN0032

Digital Photography Field Guide

- Guide-to-go format delivers instruction the way consumers want it - on a need-to-know basis, whenever, wherever!
- Focused chapters deal with common photo situations: weddings, portraits, events, and more.



Book-Paperback
\$23

WebCode PGN0043

Easy Creating CDs & DVDs

- Simple, easy to follow step-by-step guide for the beginner on adding data, audio and digital video to CDs and DVDs.
- While the book as a whole is general, with many how-to tips and hints, it focuses on major software programs to illustrate these concepts.
- Includes coverage of audio and video CD creation as well as authoring and outputting DVDs.



Book-Paperback
\$28

WebCode PGN0029

Upgrader's Guide to Microsoft Office System 2003

Quickly find the information you need to maximize your productivity! This must have guide unveils the new, revised, moved, and improved features in Office 2003 Professional. But most importantly - it includes only the content relevant for those upgrading to Office 2003 - no fluff, no extra stuff.



Book-Paperback
\$28

WebCode PGN0013

CONGRATULATIONS

Sushini Gunawardene recently won the prestigious Adobe ALC Channel Sales Person of the Year Award for 2004. We're proud to have Sushini as part of our team over the last 7 years.



Volume software licensing program

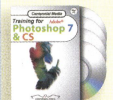
Whether you're a large corporation, small business, educational institution, or government agency, you can increase the impact of your software budget and simplify your business document processes when you order Adobe products in volume through the Adobe Open Options 4.0 volume desktop software licensing program. And a new points system better reflects the value of the software licenses you order.

These programs let you combine orders of Adobe's software products. Each product is assigned a point value and your discount level is based on the total number of points you accumulate. So the more you order, the more you save! And each licensing program comes with online tools that enable efficient software administration.

Call Sushini and the Managed Accounts Team on 130 761 761 for more Adobe Licensing Information.

Centennial Media Photoshop CS

The graphics industry worldwide relies on the power of Photoshop. Students will be well prepared for future employment if they have a sound understanding of this software.



\$349
WebCode AD00001

Adobe Acrobat 7.0 Standard

Transform PDF files into intelligent documents

Adobe® Acrobat® 7.0 Standard software is the quick and easy way to create and share Adobe PDF documents. You can convert files from applications such as Microsoft Office into Adobe PDF documents that can be read by anyone using free Adobe Reader® software. Combine spreadsheets, presentations, images, and other files into a consolidated Adobe PDF document that others can read but not alter. Offer reviewers familiar commenting tools to quickly gather input. View comments and feedback from multiple reviewers, and then generate an Adobe PDF file with advanced security features that accurately represents the original document.

- Create and share documents quickly and easily
- Combine different files to create an organized document
- Use familiar tools for review and commenting
- Protect document content to help preserve its integrity



Bonus*
Radio Talk hands free car kit valued at \$49.90. Completely wireless. Radio Talk attaches to your mobile phone and broadcasts incoming calls through your radio speakers.

*Offer via redemption through Adobe Customer Service (1300 550 205) until 31.3.05. Conditions Apply.

Academic	Upgrade	Full
WebCode WIN_AEP0471 \$132	WebCode WIN_ADU0677 \$195	WebCode WIN_ALD0924 \$429
WebCode MAC_AEP0470	WebCode MAC_ADU0676	WebCode MAC_ALD0923

Adobe Acrobat 7.0 Professional

Collect, produce, and share intelligent documents

Adobe® Acrobat® 7.0 Professional software is the advanced way to create, control, and deliver more secure, high-quality Adobe PDF documents. Assemble electronic or paper files—even Web sites, engineering drawings, and e-mail—into reliable PDF documents that are easy to share with others using free Adobe Reader® 7.0 software.

Manage document reviews, synthesizing feedback from multiple reviewers while preserving document format and integrity. Extend commenting capabilities to anyone using Adobe Reader 7.0. Windows® users can design intelligent Adobe PDF forms that include business logic, such as calculations and data validations, to help increase the accuracy of data collection while reducing the costs of manual data entry.

- Create and reliably exchange content-rich documents
- Assemble multiple files into a single, polished document
- Collect and manage review feedback
- Apply advanced document access controls and security

Academic WIN (AED0473) **\$198**
Academic MAC (AED0472) **\$198**



Bonus*
Radio Talk hands free car kit valued at \$49.90. Completely wireless. Radio Talk attaches to your mobile phone and broadcasts incoming calls through your radio speakers.

*Offer via redemption through Adobe Customer Service (1300 550 205) until 31.3.05. Conditions Apply.

Upgrade from 4 or 6 Std	Upgrade from 6	Full
WebCode WIN_ADU0075 \$290	WebCode WIN_ADU0073 \$290	WebCode WIN_ALD0927 \$638
WebCode MAC_ADU0074	WebCode MAC_ADU0072	WebCode MAC_ALD0926

Adobe Acrobat Elements 6.0

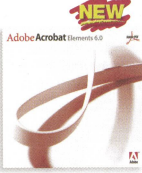
Distribute more secure, reliable documents across the enterprise

Adobe® Acrobat® Elements software enables you to create, control, and deliver reliable Adobe PDF documents across the organization. Extend the value of your investment in Microsoft Office by allowing users to easily create files in Adobe PDF, a de facto standard for electronic document exchange. Acrobat Elements is available for Windows® and only in volume from authorized Adobe Licensing Centers.

- Enable reliable document creation and exchange
- Accelerate document distribution
- Extend your investment in Microsoft Office

Call our Managed Accounts Team at: 1300 761 761

Acrobat Elements is available through the Adobe TLP Licensing Program now with a reduced minimum of 100 seats per order



Looking for additional Adobe titles?
Check our website for the latest updates, upgrades and brand-new releases of red-hot Adobe software!
csw.com.au/adobe

Macromedia Studio MX 2004 All in One

A compendium of multiple reference books in one volume designed for the beginning Macromedia Studio user who wants to buy just one book that is likely to answer all his current - and future - questions. Doesn't assume the reader wants to use just one single product in isolation.



\$56

WebCode PGN0033

Macromedia Contribute 3 Visual QuickStart Guide

Thoroughly updated guide from popular Macworld writer gets users going fast with Macromedia's hot content management tool.



\$32

WebCode PGN0028

Centennial Media Dreamweaver MX Training

Dreamweaver MX 2004 package includes 3 CDs of training for Dreamweaver MX and 1 CD of training for Dreamweaver MX 2004 new features. Your trainer is Macromedia Specialist Trainer Paul Le Fevre. Comprehensive Training for designers and developers alike.



\$349

WebCode CEN0032

Macromedia ColdFusion MX 7

Macromedia ColdFusion MX 7 is the most significant release of ColdFusion since its inception ten years ago. Still the easiest way to build and deploy powerful Internet applications, ColdFusion MX 7 introduces powerful, new services for rich Flash and XForms generation, integrated business reports, dynamic generation of printable documents, and application access through Instant Messaging and SMS text messaging on mobile devices. Used alone or in conjunction with J2EE or .NET solutions, ColdFusion MX 7 solves new classes of problems while reducing development time and costs.

- Standard Upgrade (MMC2005) **\$752**
- Standard Academic (MMC2006) **\$974**
- Enterprise Upgrade (MMC2007) **\$3510**
- Enterprise (MMC2008) **\$7035**



\$1522

WebCode MMC2004

Macromedia Captivate

Macromedia Captivate is the easiest way to create professional-quality, interactive Flash simulations and software demonstrations. Without programming or multimedia skills, automatically record all on-screen actions to instantly create demonstrations complete with mouse movements and text captions, or simulations with scored interactions and instructional feedback. Point and click to edit, customize, or add eLearning interactions. Captivate files are small in size, high resolution, and are SCORM/AICC compliant for easy LMS deployment. Seamless integration with Macromedia Breeze and Flash MX 2004 provides powerful design, development, and delivery capabilities. Rapidly publish product demonstrations, user support tutorials, and training courses online or on CD.

- Academic (MMC2006) **\$286**
- Upgrade (MMC1993) **\$429**



\$724

WebCode MMC1992

Macromedia Contribute 3

Macromedia Contribute 3 redefines web publishing, making it an activity open to everybody, everyday, requiring no technical expertise. Contribute 3 lets everyone in an organization publish to websites, bringing them alive with up-to-date content and effective communication.

- Academic (MMC2025) **\$137**
- Upgrade (MMC2029) **\$120**



\$229

WebCode MMC2027

Macromedia Flash MX Pro 2004

Improved rich media support, streamlined publishing and robust new features to jumpstart development of highly interactive experiences plus advanced functions for creating data-driven applications, interactive content, professional quality video experiences, and deployment to mobile phones and devices.

- Academic (MAC2024) **\$235**
- Upgrade (MAC2012) **\$239**
- Standard (MAC2009) **\$770**
- Standard Upg (MAC2010) **\$319**
- Standard Academic (MAC2023) **\$145**



\$1072

WebCode MAC2021

Macromedia Dreamweaver MX 2004

A powerful combination of visual layout tools, application development features, and code editing support, enabling developers and designers at every skill level to create visually appealing, standards-based sites and applications quickly. From leading support for CSS-based design to hand-coding features, Dreamweaver provides the tools professionals need in an integrated, streamlined environment.

- Academic (MAC2021) **\$149**
- Upgrade (MAC2004) **\$605**



\$649

WebCode MAC2003

Macromedia Fireworks MX 2004

Create, optimize and integrate great-looking web graphics. Fireworks MX 2004 provides professional control that enables easy creation of sophisticated rollover effects, multi-state buttons and pop-up menus. Fireworks MX 2004 streamlines productivity with enhanced performance and third-party web development tools.

- Academic (MAC2022) **\$154**
- Upgrade (MAC2008) **\$230**



\$509

WebCode MAC2007

Macromedia Studio MX 2004

Macromedia Studio MX 2004 integrates the leading professional tools for developing the full range of web sites and internet applications. Developers can build websites and applications with Dreamweaver, create interactive content with Flash, generate web graphics with Fireworks, and incorporate vector graphics with FreeHand. The consistent user interface and seamless integration across the tools in Studio MX 2004 streamline web development workflow, enhancing productivity and ease-of-use. For developers delivering rich interactive applications, Studio MX 2004 is also available with Flash Professional.

- Academic (MAC3000) **\$290**
- Upgrade from MX (MAC2016) **\$658**
- Upgrade from any Macromedia product (MAC2015) **\$770**



\$1289

WebCode MAC2014

Macromedia Web Publishing System

The Macromedia Web Publishing System is a scalable, complete solution for businesses to affordably build, manage, and publish to websites.

The Web Publishing System starter 10-pack consists of:

- 10 Contribute 3 licenses for business users
- 1 Studio MX 2004 with Flash Professional and
- 1 Contribute 3 license for a web developer
- 11 Contribute Publishing Services user access licenses
- Plus Contribute and Contribute Publishing Services maintenance for 1 year

The system meets the full spectrum of needs for web developers, IT managers, and business professionals—empowering users to easily publish to the web within a centrally controlled, standards-based environment. Individual licenses are also available through the Macromedia Volume Licence Program.



\$3750

WebCode 10 User MMC2021

Macromedia Director MX 2004

The proven multimedia tool for building rich, interactive content and applications for CDs, DVDs, kiosks, and the Internet. Director MX 2004 handles the widest variety of media, letting you build compelling, high-performance content—such as learning applications, corporate demonstrations, and games—that delivers measurable results.

- Academic (MMC0043) **\$780**
- Upgrade (MMC0185) **\$625**



\$1870

WebCode MMC0194

Macromedia Freehand MX

Concept and design visually-rich graphics for print and web with Macromedia Freehand MX, the multi-publishing design solution with powerful illustration and drawing tools and an open, streamlined workflow.

- Upgrade from 10 **\$175**
- Upgrade from 9 **\$249**
- Academic **\$145**



\$590

WebCode Win Full MAC2019
WebCode Mac Full MAC2018

CorelDRAW Graphics Suite 12

Plus FREE KPT Collection Plus FREE Corel KnockOut 2
Streamline your workflow with one complete package

With new smart design tools, it's now easier and faster to produce more creative and accurate shapes and objects—giving you a more powerful Windows graphics suite. Discover new and advanced features that increase productivity, such as real-time visual feedback. Keep your workflow smooth with industry-standard file compatibility, including SVG, AutoCAD, HPGL, Adobe Photoshop, Adobe Illustrator, PDF, and new MicroSoft Office export. With integrated applications for vector drawing, page layout, digital imaging and motion graphics all in one box, CorelDRAW Graphics Suite 12 offers value that's second to none.

Full (COR8355) \$645

Purchase
CorelDRAW Graphics Suite 12
and receive KPT Collection
plug-in plus Corel KnockOut 2
FREE*



*Conditions Apply

Upgrade
WebCode COR8540 **\$285**

Corel Painter IX

Powerful Natural-Media painting and illustration software

Corel Painter IX—the world's most powerful Natural-Media painting and illustration software—features unique digital brushes, art materials and textures that mirror the look and feel of their traditional counterparts. The newest version of Corel Painter takes digital design to unprecedented levels with the revolutionary Artists' Oils Painting System, Snap-to-Path Painting, Quick Clone for photographers, and brushes that perform up to ten times faster than previous versions. Corel Painter enables some of the world's most accomplished creative professionals—including commercial designers, artists, and photographers—to extend their natural talents and techniques to create original works of breathtaking digital art.

Full (COR8600) \$649

Academic (COR8602) \$154

Created with
Corel Painter IX

Upgrade
WebCode COR8601 **\$352**

Corel WordPerfect Office 12 Home Edition
Work easily, creatively and securely on your home computer

With WordPerfect Office 12 Home Edition, your entire household can work easily, creatively and securely on your home computer. Loaded with value, this feature-rich suite is the ultimate home computing companion. It provides everything you need to easily research topics for home or school projects, create impressive-looking documents, manage personal finances, enhance and share digital photos, and burn music and data CDs and DVDs. Plus, with Symantec Norton Internet Security 2005, it helps safeguard your computer against Internet hackers, viruses and spam, and protect your privacy online. WordPerfect Office 12 Home Edition—eight leading home PC tools. One complete package.

Features:

- WordPerfect 12
- Quattro Pro 12
- Norton Internet Security 2005
- Pinnacle Instant CD/DVD Version 9 LE
- Encyclopedia Britannica Ready Reference 2005
- Corel PhotoBook
- Corel PhotoAlbum
- WordPerfect Office ready Personal Finance Essentials

Now including
Norton Internet
Security 2005!



WebCode COR8280 **\$140**

CorelDRAW Essentials 2

Create professional-looking designs – quickly and easily

A simple-to-use, all-in-one drawing application, with powerful photo-enhancement tools and customizable template capabilities that allow you to create professional-looking projects with ease. You can produce sophisticated graphics, correct and enhance photos, lay out your project and publish it in a variety of print and Web formats.

Features:

- CorelDRAW Essentials 2 - graphics and page layout
- Corel PhotoBook - photo retouching and editing
- Corel PhotoAlbum - photo albums and organising



WebCode COR8251 **\$125**

Corel WordPerfect Office 12 Standard
Ultimate power and control over documents

WordPerfect 12 delivers ultimate power and control over documents—allowing you to import and export MS Word files with enhanced ease and speed. Create professional-looking letters, articles, reports, proposals, books, legal pleadings, brochures and much more. In addition, WordPerfect 12 provides the advanced features and flexibility of HTML, Cascading Style Sheets (CSS), XML and PDF when publishing documents for distribution.

Full (COR8309) \$449

Academic (COR8311) \$154



Upgrade
WebCode COR8310 **\$239**

Paint Shop Pro 9

Paint Shop Pro 9 is the premier tool for affordable, professional image editing. With superior photo editing power, precision graphic design and advanced digital art capabilities, Paint Shop Pro is the software for people whose creativity has no limits. Featuring highly customized workspace options and streamlined production tools, Paint Shop Pro provides advanced tools for advanced imaginations.

Upgrade (JAS0022) \$128

Academic (JAS0023) \$167



\$232
WebCode JAS0021

Paint Shop Pro Studio

Paint Shop Pro Studio makes all your photo projects fun and easy. Photo restoration and editing, organizing and sharing, scrapbooking, home remodeling, whatever you want to do with your photos, Paint Shop Pro Studio has the tools you need for fast, fantastic results. Includes Paint Shop Photo Album Standard Edition FREE.



\$156
WebCode JAS0025

Paint Shop Photo Album 5 Deluxe

Paint Shop Photo Album 5 Deluxe Edition is the easiest way to organize, protect, and share your photos - guaranteed! This smart and simple software helps you do exactly what you want with your photos. Organize them. Touch them up. Share them. Protect them. Photo Album 5 is where your photos live - you'll love it!



\$88
WebCode JAS0019

RENT SMART
Because buying isn't

SEE PAGE 3 FOR DETAILS

Microsoft Works 8

Works 8 is the latest version of the popular essential home productivity software. It includes a word processor, spreadsheet, database and calendar. Plus, Works 8 has new, professionally designed templates and a new tool to help organise common projects.

Licensing and academic pricing available.



\$82

WebCode MSC2920

Microsoft Digital Image Suite 10

Packed with all of the tools you need to organise your photos, edit them using hundreds of tools, print and share your work and archive photos for safekeeping. Licensing and academic pricing available.

• Picture It! Photo Premium 10 (MSC2922) **\$63**



\$150

WebCode MSC2921

Microsoft Encarta Premium Suite 2005

Encyclopedia with research and learning tools. Dictionary & Thesaurus, Literature Guides and Chart Maker. Licensing and academic pricing available.

• Standard 2005 (MSC2470) **\$32**
• Premium CD (MSC2471) **\$102**



\$102

WebCode MSC2472

Microsoft Works Suite 2005

Works Suite includes five popular Microsoft home products in one, easy-to-use package. Works Suite includes Microsoft Works, Microsoft Word and the latest versions of Microsoft Money Standard, Microsoft Encarta Standard, and Microsoft Picture It! Photo Premium.



\$180

WebCode MSC2924

Microsoft MSDN Universal 7

Provides priority access to essential resources for developers, including timely delivery of everything you need to build XML Web services and applications. Get uninterrupted access to the latest Microsoft technologies 24 hours a day, 7 days a week online and through regular CD or DVD updates.

• Upgrade/Renewal (MSA0778) **\$3600**



\$4400

WebCode Full MSA0777

Microsoft Exchange Server 2003 Standard

Designed to meet the messaging and collaboration needs of small and medium-size corporations. With Exchange 2003 Standard Edition, you get:

- Exchange 2003
- The flexibility to be configured as a Microsoft Office Outlook Web Access front-end server
- 16-gigabyte data storage maximum
- Recovery Storage Group
- Full (MS52081) **\$1998**

*for non-commercial use only



\$1049

WebCode Academic* MSS2080

Microsoft Visual Studio.Net Professional

Visual Studio.Net Professional will enable developers to build next generation Internet applications that target any Internet device and integrate with any platform.

- Upgrade (MSA9837) **\$835**
- Full (MSA9836) **\$1299**



\$140

*for non-commercial use only

WebCode Academic* MSA9811

Microsoft Publisher 2003

Publisher 2003 is a comprehensive solution for creating and publishing a wide variety of publications for desktop printing, commercial printing, e-mail distribution, or viewing on the Web. Publisher 2003 looks and works more like other programs in the Microsoft Office System, making it easier to use the right Office tool for the task.

- Upgrade (MSA4235) **\$159**
- Full (MSA4234) **\$269**



\$145

*for non-commercial use only

WebCode Academic* MSA4233

Microsoft Visio 2003 Std

Microsoft Office Visio 2003 gives business and technical users the power to visualise and communicate ideas, information, and systems. Use the simple, flexible tools in Visio 2003 to easily create business and technical charts and graphics that capture your inspiration and communicate it with impact.

- Standard Upgrade (MSA4245) **\$150**
- Full (MSA4244) **\$297**



\$99

*for non-commercial use only

WebCode Academic* MSA4243

Microsoft Small Business Server 2003

Access your desktop remotely from any browser - anywhere in the world - 24x7. Collaborate on projects via an auto deployed Windows Sharepoint Services site. Best-of-breed email and calendaring solution with Exchange 2003 and Outlook 2003.

- SBS 2003 Premium (MS59705) **\$2349**



\$990

WebCode Standard MSS9700

Microsoft Visual Basic .net Standard

Reengineered to be a first-class language on the Microsoft .NET Framework, it provides the easiest and most productive route for new developers and existing Visual Basic programmers to quickly build Windows-based applications.

- Full (MSA9812) **\$165**



\$92

*for non-commercial use only

WebCode Academic* MSA9811

Microsoft FrontPage 2003

Use enhanced design tools to produce better looking Web sites. Generate better code, or expand your code skills. Use built-in scripting tools for interactive results. And with professional coding tools, you can write code faster, more efficiently, and with greater accuracy. Connect with people and information in new ways by building Extensible Markup Language (XML) data-driven Web sites.

- Upgrade (MSA4217) **\$170**
- Full (MSA4216) **\$330**



\$150

*for non-commercial use only

WebCode Academic* MSA4215

Microsoft Visio 2003 Pro

Microsoft Office Visio Professional 2003 includes a full range of diagrams for business and technical professionals to create network and directory service diagrams, software, database, website diagrams, engineering drawings and building space and floor plans.

- Pro Upgrade (MSA4242) **\$374**
- Full (MSA4241) **\$737**



\$209

*for non-commercial use only

WebCode Academic* MSA4240

Microsoft SQL Server 2000 Standard

Relational Database Management and Analysis System. Great support for Web standards, powerful tools for system management and tuning, and exceptional scalability and reliability for your money make SQL Server 2000 the best choice for the next generation of enterprise-class database solutions.

- Full 5 Client (MS58209) **\$2299**



\$1489

*for non-commercial use only

WebCode Academic 10 Client* MSS8208

Microsoft Visual C++ .net Standard

Visual C++ .NET is the most powerful C++ tool for creating the highest-performance software for Windows and the Web. Including features like IntelliSense Technology, Edit and Continue which significantly speeds the development process.

- Full (MSA9816) **\$165**



\$88

*for non-commercial use only

WebCode Academic* MSA9815



Why get MS Office 2003?

Microsoft Office 2003 Editions deliver significant improvements over previous versions of Office, including:

- Advanced e-mail management tools to help you fight back against spam and viruses better than ever before.
- Improved automatic document recovery and compatibility with older files, which mean fewer worries about lost data.
- Brand-new collaboration features to allow you to share work easily and stay connected anytime, anywhere.

MS Office 2003 Editions work best with Windows XP

- If you use Windows XP or Windows 2000, then Office 2003 is the right choice for you.
- If you use Windows 98 or Windows Me, you should consider upgrading to Windows XP.
- If upgrading to Windows XP is not an option for you, then Office XP is the best way to go.

Microsoft Office	Student & Teacher Edition*	Standard Edition	Small Business Edition	Professional Edition
Word	•	•	•	•
Excel	•	•	•	•
PowerPoint	•	•	•	•
Outlook	•	•	•	•
Outlook with Contact Manager			•	•
Publisher			•	•
Access				•
Enhanced XML Technology				•
Enhanced IRM Technology				•

*For non-commercial use only. Must be a "Qualified Educational User." See Student and Teacher Edition 2003 package for details.

Office 2004 for Mac Student & Teacher

Offers:

- Full versions of the leading productivity applications from Microsoft.
- Rights to install on three computers in your household.



*for non-commercial use only

\$272

WebCode MSA3748

Office 2004 for Mac Standard

Includes 2004 versions of Word, Entourage, Excel and PowerPoint and a host of groundbreaking new features. Licensing and academic pricing available.

- Full (MSA3747) \$645



Upgrade

\$399

WebCode MSA3748

Office 2004 Pro for Mac

Includes 2004 versions of Word, Entourage, Excel, and PowerPoint - designed exclusively for Mac OS X. Plus, this edition of Office includes Virtual PC 7 for Mac with Microsoft Windows XP Professional. Licensing and academic pricing available.

- Full (MSA3750) \$790



Upgrade

\$517

WebCode MSA3751

Microsoft Windows XP Home with SP2

Designed exclusively for home computing. Whether you're working with digital photos, music, or video, or building a home network, Windows XP innovations bring you into the digital age with ease.

- Full (MSA5010) \$290



Upgrade

\$150

WebCode MSA5011

Microsoft Project Standard 2003

Microsoft Office Project Standard 2003 is used by project managers who need a desktop tool to manage their projects independently but who do not require strong coordination with other project managers or the ability to manage resources from a central repository.

- Upgrade (MSA2054) \$530
- Full (MSA2057) \$928



*for non-commercial use only

Academic*

\$116

WebCode MSA2057

Microsoft Windows XP Professional with SP2

Delivers everything you demand from your computing experience. Whether you're on your own or running a business of any size, optimize your productivity with the digital world's latest innovations.

- Full (MS59500) \$422
- Academic* (MS59501) \$118



*for non-commercial use only

\$297

WebCode MSA59502

Microsoft Project Professional 2003

The desktop enterprise project management program that is used with MS Office Project Web Access and MS Office Project Server 2003. All the core scheduling tools in Project Standard 2003, plus powerful portfolio and resource management capabilities when connected to Project Server 2003.

- Upgrade (MSA2057) \$935
- Full (MSA2056) \$1549



*for non-commercial use only

Academic*

\$294

WebCode MSA2056

Microsoft Plus! SuperPack for Windows XP

Microsoft Plus! SuperPack for Windows XP is loaded with stunning screensavers and themes, exciting games, and great new ideas for customizing photos, music, and home movies. It's a wonderful way to take your Windows experience to the next level.



WebCode MSA5012

\$49

Windows Server 2003

Windows Server 2003 Standard Edition is the network operating system for small organisations and departmental use. It delivers intelligent file and printer sharing, secure Internet connectivity, centralised desktop application deployment, and Web solutions that connect employees, partners, and customers.

- Std 5 Client (MS59840) \$1595
- Std 10 Client (MS59839) \$1880



Enterprise Available. *for non-commercial use only

Std 5 Client Academic*

\$685

WebCode MSS9838

Std 10 Client Academic*

\$835

WebCode MSS9837

Upgrade

\$517

WebCode MSA3751

RENT SMART
Because buying isn't

SEE PAGE 3 FOR DETAILS

Get exchange by the mailbox - Day3 SureExchange Microsoft Exchange Server 2003 without the hassles!

Did you know that you can have the power of Microsoft Exchange Server 2003 without the capital expenditure of hardware, software and support? SureExchange -- Day3's hosted Microsoft Exchange service -- brings this unprecedented value offering to small and mid-sized business today!

This all-inclusive solution comes with full access to centralised e-mail, calendaring, contact management, distribution lists and public folders using your regular Outlook client or from any computer using just a web browser.

Imagine having common calendars, shared contacts and the power of Exchange anywhere and at any time. With SureExchange, Microsoft Exchange is secure, accessible and easily manageable by you and your staff wherever you are located.

Day3's SureExchange transforms Exchange Server 2003 from software and hardware that your company would normally purchase and maintain, into a pay-as-you-go service delivered over a secured Internet connection. This innovative approach provides Enterprise-class IT infrastructure, operations and services to any size company, lightening the load for your IT department and helping your company focus on core business functions.

SureExchange plus SureMessage bundle

The best of both worlds Hosted Microsoft Exchange Server

2003 PLUS advanced spam and virus protection with SureMessage.

Refer to page 55...



Microsoft Licensing

Choosing a Volume Licensing Program with City Software

Before deciding if volume licensing is right for your organization, consider these questions:

- How often will you upgrade your hardware and software?
- What priority does your organization put on training?
- What software will you need to build the solution that meets your objectives?
- Are you interested in spreading out payments?
- How do acquisition costs and ease of deployment affect your decision?
- Does your organization need multiple copies of software?
- Is it important for your organization to deploy the most current Microsoft software?
- Does your organization prefer to acquire licenses for software when needed, or is standardization important?

Begin Choosing Your Solution

Answer the preceding questions and consider which of the following volume licensing programs most accurately describes your organization and meets your priorities.

Open License Program

The Open License program's flexibility and low entry requirements make it a great program for organizations with fewer than 250 computers.

There are three Open License program offerings to choose from:



Open License Value.

For organizations with as few as five desktops that would like the advantages of Software Assurance and the ability to spread payments annually.



Open License Volume.

For customers able to acquire 500 points in a single pool upfront. This offering provides additional potential savings compared with the other Open License offerings.



Open License Business.

This program requires an initial acquisition of only five licenses.

Contact our Corporate, Government & Educational Sales Team on 1300 761 761 for all your Microsoft Licensing requirements

MYOB RetailReady

MYOB RetailReady - Everything you need to turn your PC into a Point Of Sale Solution! No Further Software or Hardware required!

MYOB's RetailReady contains:

- MYOB RetailBasics POS software
- Posiflex Thermal Printer PP7000
- Posiflex Scanner CD2600
- Posiflex Cash Drawer GR3100

Whilst a cash register can do the job, it has its limitations. MYOB RetailBasics Point Of Sale software and Posiflex hardware, on the other hand, can turn a standard PC into a powerful EASY solution

RetailBasics enables you to:

- Search for stock and maintain stock items
- Analyse what's selling, what's not and GST collected
- Manage lay-bys and process refunds
- Collect and analyse customer information
- Track credit card surcharges
- Export to most MYOB business software products

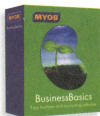


MYOB BusinessBasics

No need to jump between programs (such as spreadsheets and word processors) to get your business done. Now with MYOB BusinessBasics, you can run all your basic business tasks, create quotes, email invoices and enter transactions - from one easy business program.

MYOB BusinessBasics is ideal for small or home-based businesses, offering you a number of significant time-saving features that make business management even easier, such as:

- Automated bank reconciliation
- An easy-entry transaction register
- Track job costings and profitability
- Track your GST and automate your BAS
- Create and customise over 70 reports



WebCode MYB0004 **\$92**

MYOB Accounting Plus 14

With an award-winning integrated payroll, MYOB Accounting Plus is the ideal single-user business management and accounting solution for smaller employers. MYOB Accounting Plus also makes it easy to track and charge for your time, and provides access to powerful profit-building information about your business.

- Handle all your staff's needs with an award-winning integrated payroll
- Bill for your time the way you want to
- Manage all your sales and purchases
- Analyse your business
- Access M-Powered Services



Full **\$472**
WebCode MYB0030
Upgrade **\$259**
WebCode MYB0033

MYOB FirstEdge - Mac

MYOB FirstEdge is the easy business and accounting software for small or home-based business on the Mac. Run all your basic management tasks from one easy business program. MYOB FirstEdge simplifies the way you quote, track and invoice your jobs, simultaneously tracking your transactions and GST, and providing you with over 70 reports to help you understand your business.

- Create quotes that convert to invoices
- Track job costings and profitability
- Email quotes, invoices and reports
- Automatically reconcile your accounts



WebCode MYB0005 **\$92**

MYOB Accounting 14

MYOB Accounting is for businesses that need to streamline accounts procedures and would benefit from improved inventory management, better management of customer and supplier relationships and advanced business reporting.

- Manage your sales, receivables and GST obligations
- Track your purchases and payables
- Store all your business contacts' information
- Keep track of your inventory
- Analyse your business
- Access M-Powered Services



Full **\$245**
WebCode MYB0029
Upgrade **\$215**
WebCode MYB0032

MYOB Premier 8

MYOB Premier is for businesses that need to streamline accounts procedures, whether through simplifying complex inventory issues, running an automated payroll, time billing, accessing advanced reporting or increasing productivity with multi-user access.

- Multiple users can access your business information simultaneously your network
- Includes FREE 12 months of support access and upgrades
- Integrated banking, sales, purchases, payroll and time billing
- Record and track foreign-currency transactions
- Powerful inventory and pricing features
- Access M-Powered Services



WebCode MYB0028 **\$1295**

MYOB AccountEdge 4 - Mac

MYOB AccountEdge is issued with a single user licence and with unlimited additional licences available. MYOB AccountEdge gives you the power to manage even the most complex medium-sized business, with a powerful multiple pricing level inventory, multiple currency transaction functionality, integrated payroll, and more.

- Track your inventory and your money
- Process your payroll
- Track your billable time
- Maintain accurate accounts
- Process sales and purchases
- Build better customer and supplier relationships
- Setup and manage promotions



WebCode MYB0037 **\$532**

MYOB RetailManager 7

The complete retail picture. With MYOB RetailManager it's easy to keep track of every transaction in your store from sales, stock movements, GST and gross profit, right through to staff performance and even customer details. Includes 12 months of 7-days-a-week support and upgrades



WebCode MYB0036 **\$1635**

MYOB Test Drive

MYOB Test Drive allows you to try Australia's leading business software. With up to 90 days use of MYOB's seven leading products including RetailManager and the Macintosh range, trial Australia's number one range today.



WebCode MYB0034 **\$9**

MYOB JustInvoices

If you're looking for a better way to prepare your invoices, track your sales and calculate GST received, but you're not after a complete business management system, MYOB JustInvoices is just what you need.



WebCode MYB0027 **\$70**

QuickBooks Point of Sale 2004

QuickBooks Point of Sale 2004 is for the retailer that is looking for a solution that delivers fast sales processing and easy customer management tools.

- Integration to QuickBooks Pro 2004, QuickBooks Premier 2004
- Point Of Sale for fast sales processing
- Customer account and lay-by management
- Extensive retail business management reports



Full
\$450
Websearch Code QJ0056

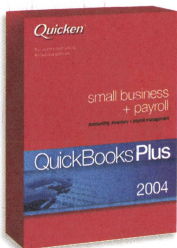
Payroll Premier

Payroll Premier 2004 makes payroll "Quicken.easy" giving you more time to manage your business. The best selling stand alone payroll software in Australia is designed to keep you up to date, compliant with the latest legislation, and grows as your business needs to grow.

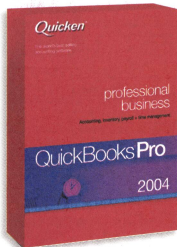
- Updated 2004-2005 payroll tax tables
- New single page summary form
- Enhanced search functionality
- Automated check of Tax File Numbers



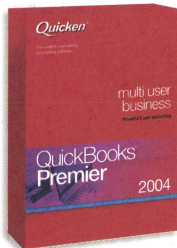
Full
\$448
Websearch Code QJ0068



Go to www.csw.com.au/quicken to view red hot Quicken deals and prices!



Go to www.csw.com.au/quicken to view red hot Quicken deals and prices!



Go to www.csw.com.au/quicken to view red hot Quicken deals and prices!

QuickBooks Plus 2004

QuickBooks Plus 2004 Small Business + Payroll accounting tools for a business with employees. Exciting new timesaving features and powerful functionality make QuickBooks Plus 2004 a must-have for efficiency-minded businesses. It's designed for businesses that track payroll and recommended by Accountants everywhere.

Features & Benefits

- Fully Integrated Payroll. Contained wholly within QuickBooks
- Print pay slips and cheques directly from QuickBooks Plus - now with improved layouts
- Electronic direct deposit of pay cheques
- Detailed reports and Payment Summaries
- Take care of all your Payroll and financial information in the one program
- Customisable - change the interface to the way you want it
- Includes 12 months free technical support and product upgrades on full version only
- Single User

Subscription	Upgrade	Full
\$182	\$236	\$364
Websearch Code QJ0063	Websearch Code QJ0060	Websearch Code QJ0054

QuickBooks Pro 2004

QuickBooks Pro lets you prepare quotes & estimates, integrates seamlessly with Microsoft Office and has advanced tools to help you increase efficiency and accuracy.

QuickBooks Pro includes all the basic accounting functionality of Plus and adds advanced productivity tools including integration to the Microsoft Office suite and Microsoft Outlook.

Features & Benefits

- Use QuickBooks professional form designs that now include more customisation options
- Improve accuracy with time tracking, estimating, and job costing
- Automatically create a budget
- Increase efficiency with advanced tools
- Comprehensive employee management
- Instant access to your information, the way you want to see it
- Manage your business more effectively
- Easy to learn and use
- Easy, forms-based interface
- Better tools to make financial decisions
- Includes 12 months free technical support and product upgrades on full version only

Subscription	Upgrade	Full
\$227	\$290	\$520
Websearch Code QJ0064	Websearch Code QJ0061	Websearch Code QJ0056

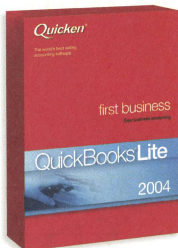
QuickBooks Premier 2004

QuickBooks Premier 2004 includes versions for accountants, contractors, manufacturers & wholesalers, not for profit organisations, professional organisations, retailers or property managers.

Features & Benefits

- Automatically create an annual forecast
- Built specifically for your industry
- Share Data Among Simultaneous Users
- Have Greater Control Over Data
- Increase efficiency with advanced tools
- Comprehensive employee management
- Instant access to your information, the way you want to see it
- Better tools to make financial decisions
- Ask help questions from nearly anywhere
- Includes 12 months free technical support and product upgrades on full version only

Subscription	Upgrade	Full
\$455	\$620	\$1295
Websearch Code QJ0065	Websearch Code QJ0062	Websearch Code QJ0057



QuickBooks Lite 2004

QuickBooks Lite 2004 is much more efficient than spreadsheets, word-processing, or paper ledgers. Quickly and easily manage basic tasks like printing cheques, paying bills, generating reports, invoicing customers and tracking expenses. You'll spend less time and money on bookkeeping and paperwork - and have more time to work on other important areas of your business.

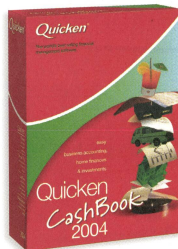
QuickBooks Lite 2004 has tools to help you get started quickly, answer your questions and guide you through basic setup tasks step-by-step. Organise information about your company, customers and suppliers in one place so it's easy to find when you need it. No need to know debits, credits, posting, or closing; QuickBooks speaks plain English and is organised the way you think about your business.

Features & Benefits

- Manage your business more effectively
- Easy to Learn and Use
- Easy, forms-based interface
- Better tools to make financial decisions
- Ask help questions from nearly anywhere
- Manage GST & BAS

Go to www.csw.com.au/quicken to view red hot Quicken deals and prices!

Full	\$92
WebCode QUI0054	



Quicken CashBook 2004

Managing your business and organising your home finances is easy with Quicken CashBook 2004. A home and business software solution, CashBook lets you manage your investments, loans and bank accounts as well as keeping an eye on your financial position. The business accounting tools cover everything from estimates and invoices, to bill payments and accounts receivable - everything a small business needs.

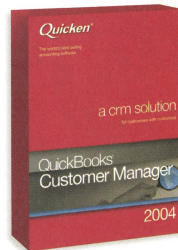
Quicken CashBook makes it easy to see your financial position at a glance with graphs and reports. Your finances are accessible from 'Centres' like the 'Banking Centre' or 'Business Centre' so the information you use together is kept together. It's the easy way to work with your accounts.

Features & Benefits

- Reports and Graphs Centre - for a clear snapshot of your finances
- Debt Reduction Planner - helps you get out of debt faster
- Save More Planner - monitor your savings and create saving strategies
- Taxes Centre - manage your taxes better so there are no surprises at tax time
- Investment Features - Capital Gains Estimator, Portfolio Rebalancer, Asset Allocation Guide and Market Index Tracking
- Simplified GST Tracking
- Create customisable invoices and estimates then email them to customers
- Project/Job costing
- Small Business Centre
- Plus many more new features and enhancements

Go to www.csw.com.au/quicken to view red hot Quicken deals and prices!

Full	\$352
WebCode QUI0090	



QuickBooks Customer Manager

QuickBooks Customer Manager is a new information and task management tool that will help you better serve your customers. It takes the pain out of tracking customer information in multiple systems because it consolidates all your client's critical information in one place and displays it on one, simple screen. When you click on a customer's name a complete overview of the customer interactions instantly appears: emails, phone calls, contact information, correspondence, recent QuickBooks transactions, linked documents, notes, to-do's, project information, and related contacts.

Features & Benefits

- Centralise all your customer data into one system
- Enhances customer service
- Simple to get started
- Manage projects efficiently
- Multi user synchronisation
- Shares data with Microsoft Outlook and QuickBooks Pro 2004 and QuickBooks Premier 2004
- Integrates with Word and Excel

Go to www.csw.com.au/quicken to view red hot Quicken deals and prices!

Full	\$220
WebCode QUI0086	

Quicken Personal 2005

Quicken Personal 2005 is for those individuals who want to "actively participate" in the management of their personal finances. It is for those people who want their budgeting and planning to be more straightforward and simple.

- Redesigned Account Centres
- Quick Summary of accounts with the At-A-Glance Bar
- Choose register colours and font
- Add a note or flag a transaction for follow up
- Select multiple transactions to copy or delete
- Use filters to identify and locate specific type of transactions within registers



Full	\$75
WebCode QUI0070	

Quicken Personal Plus 2005

Quicken Personal Plus 2005 offers everything offered by Personal 2005, with some exciting additional features. As a result Personal Plus 2005 will provide added benefits to some groups of people.

- Easier Investment Account Setup
- Placeholder Entries and Backfill
- Snapshots on Investing Centre
- Average Annual Return
- Investing Activity



Full	\$138
WebCode QUI0071	

Borland Delphi 2005 Enterprise

With Delphi, C#, Microsoft .NET Framework and Win32 support for GUI, Web, database, and ALM in one hyperproductive RAD environment, every Windows development task is easier, better, and faster. Delphi 2005 is all the power of Delphi and more for Microsoft .NET and Win32.

Architect (BOR0123) \$4990
Professional (BOR0119) \$1690



\$4190

WebCode BOR0121

Borland JBuilder 2005 Enterprise

JBuilder 2005 Enterprise simplifies Web and Enterprise JavaBeans development with two-way visual designers and rapid deployment to J2EE application servers. Power productivity with innovative JDeveloper Faces, Struts, and Web Services designers, distributed refactoring, and integrated performance tools.

Developer (BOR0127) \$815



\$5720

WebCode BOR0128

Borland InterBase 7.5

A high-performance, cross-platform, embeddable database that provides multiprocessor support. Easy installation, automatic crash recovery, and minimal maintenance.



\$102

WebCode BOR0128

Crystal Reports XI

Creating and delivering information for extreme business insight

New Crystal Reports® XI is designed to increase productivity and reduce the time spent designing, managing and delivering reports via the web. New features enable you and your end users to experience high quality viewing, printing, and exporting with less effort. These new features include an enhanced designer to speed up data access and formatting, dynamic cascading prompts to minimize report maintenance, and the editable RTF format to easily modify reports in standard word processing applications.

Access and present any data the way you want

- Flexible and unconstrained database connectivity
- Visually understand complex information with highly formatted reports
- Automated wizards and reusable templates speed report production

Deliver the right information to the right people at the right time

- Real-time and scheduled reports delivered when and where you need them
- Scalable and reliable reporting services for speed of thought information access
- Personalized reports for interactive exploration

Universal integration with applications and portals

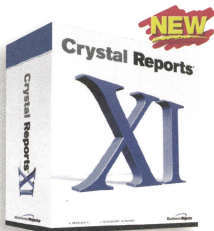
- Extensive SDKs to view, print, export and modify reports within an application
- Support for leading web application servers and platforms
- Pre-built portal integration kits for quick deployment

Drive your business with proven technology

- The chosen reporting solution by over 500 major independent software vendors
- Embedded within leading enterprise application software from Microsoft, SAP, Borland, BEA, and IBM
- Ubiquitous reporting assets and expertise for fast implementation

Crystal Reports XI Server now available!

Call City Software Managed Accounts on: 1300 761 761



Standard Edition	Professional Edition	Professional Upgrade	Developer Edition	Developer Upgrade
\$237	\$595	\$308	\$715	\$387
WebCode SCR0334	WebCode SCR0332	WebCode SCR0333	WebCode SCR0324	WebCode SCR0325

ACT! 7

Watch your business grow with stronger relationships!

Make contact

- Build contact and customer data into a powerful tool that helps propel your business.
- Sail through your day with appointment, task and activity reminders.
- Focus on what's important with prioritised task lists.

Build relationships

- Keep customers for life with automated scheduling, follow-ups and tasks.
- Keep team members on the same page with shared customer information.
- Send letters, proposals and quotes to customers instantly.

Get results

- Meet goals with confidence using advanced sales forecasting tools.
- Track opportunities with opportunity tracking.
- Help improve your bottom line with the interactive pipeline tool.

Key Features Include:

Calendar

- Get daily, weekly and monthly views with pop-up details of each event as you mouse over.

Task List

- Get a fast look at your priorities—sort by date, level, user and more.

Opportunity List:

- Track opportunities with the built-in sales process or build your own.

E-mail

- Communicate to customers via ACT! e-mail, even send multiple e-mail messages with mail merge.

Reports

- Stay on top of everything with one of 40 standard reports, or easily build your own.

View Groups/Companies

- Associate contacts with Groups or companies for further organisation.

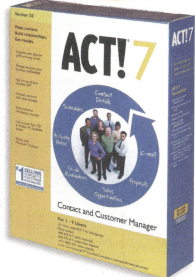
Lookup

- Instantly find anyone or any detail.

Notes & History tabs

- Save time-stamped notes and histories to track important detail.

Recommended
(And Used) By
CSW/estore Staff!

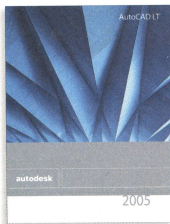


Academic	Upgrade	Full
\$154	\$154	\$275
WebCode ACT7001	WebCode ACT7001	WebCode ACT7000

AutoCAD LT 2005

Efficient, Secure, Affordable 2D CAD Software

AutoCAD LT 2005 is the affordable 2D CAD software that helps you create, plot, publish and share your 2D designs. You can quickly create tables, better manage large groups of layers and conveniently access frequently used content to work more efficiently. Sharing your data widely is a snap: even team members without AutoCAD LT software can view and mark up your published DWF files and you can instantly distribute multiple DWG files in a single step. Plus background plotting frees you to work while you print out your drawings. AutoCAD LT 2005 provides full DWG compatibility with AutoCAD 2005.



Full
\$1885
WebCode: AUT0050

Upgrade
\$635
WebCode: AUT0050

Autodesk Viz 2005

Award-winning Autodesk VIZ provides a fluid 3D environment for modelling, rendering and animation. Whether you're an architect, land planner or mechanical designer, you can use Autodesk VIZ throughout the design process to develop and explore concepts and alternatives, communicate design intent to clients and validate your design to ensure they are error free. Autodesk VIZ, a multimedia software tool that brings your designs alive.



Upgrade
(AUT0080)
\$770

\$3285
WebCode: AUT0078

Autodesk Raster Design 2005

Now you can easily use and reuse existing design data in scanned maps, drawings, aerial photographs, and satellite imagery. Autodesk Raster Design 2005, the editing and image-processing tool that works inside your AutoCAD software-based application, can save hours of drawing time by converting raster to vector and combining drawings with real-world imagery.



\$2822
WebCode: AUT0075

AutoSketch 9

AutoSketch 9 software provides a comprehensive set of CAD tools for creating precision drawings—from electrical details to floor plans, from conceptual sketches to product specifications, and much more. Offers straightforward drafting in a Windows XP-like environment plus tutorials and wizards for a fast start.



\$192
WebCode: AUT0077

Autodesk DWF Composer

Improve the efficiency and speed of the entire design review process. Review, markup, and revisions with Autodesk DWF Composer. Built around the DWF file format and developed specifically for engineering design data, Autodesk DWF Composer helps you reduce costs, errors, and cycle times by keeping the whole process digital.

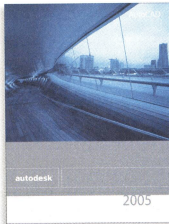


\$165
WebCode: AUT0073

AutoCAD 2005

Faster Data Creation, Easier Data Sharing

Creating a single drawing as efficiently as possible is important. Delivering a coordinated set of drawings in a timely manner directly benefits your bottom line. With AutoCAD 2005 you can do both. Everyday tools like the table object and tool palettes boost productivity, and the new Sheet Set Manager helps you control content across entire sets of related drawings, enabling you to lower the risk for errors. Then, in a single view, you can compose and collate sheet sets and share them with your project team using plots, eTransmit, or DWF (Design Web Format) files.

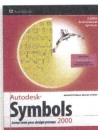


Full
\$5989
WebCode: AUT0087

Upgrade
\$849
WebCode: AUT0088

Autodesk Symbols 2000

Autodesk Symbols 2000 simplifies routine drawing tasks and boosts productivity through a toolbar-style graphical interface, which guides you rapidly through a wide selection of technically correct symbols. With a click of the mouse symbols are placed easily and exactly where they are needed.



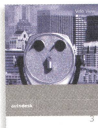
Architectural Series contains over 5,600 symbols for building design and documentation. Engineering Series containing over 10,800 symbols covering all aspects of Engineering.

Architectural
\$189
WebCode: AC0096

Engineering
\$189
WebCode: AC0099

Autodesk Volo View 3

Using Volo View 3, team members can view, mark up, measure, print, and plot AutoCAD 2004, Autodesk Inventor 7, and raster formats as well as DWF (Design Web Format) files without the original design creation software. The files display and print exactly as the document creator intended—with rich design information, such as layers, views, and measurements.



\$295
WebCode: AUT0042

Inventor Series

- Autodesk Inventor
- Autodesk Mechanical Desktop
- AutoCAD Mechanical
- AutoCAD (included as part of AutoCAD Mechanical)



Student Version

\$253
WebCode: AUT0076

Building Series

- Autodesk Architectural Desktop
- AutoCAD (included as part of Autodesk Architectural Desktop)



Student Version

\$242
WebCode: AUT0072

Revit Series

- Autodesk Revit
- AutoCAD



Student Version

\$242
WebCode: AUT0074

AutoCAD and Autodesk VIZ student versions also available separately.

ScanSoft PDF Create! Version 2

Instantly create PDF documents – PDF Create! is the fast, reliable and affordable way to turn all of your PC documents, drawings and images into industry-standard PDF files.



\$79

WebCode: SCA0012

ScanSoft PDF Converter 2 for Microsoft Word

PDF Converter is the world's best-selling solution for turning PDF files into Microsoft Word documents and forms that you can easily edit – complete with text, columns, tables, and graphics.



\$79

WebCode: SCA0011

ScanSoft PDF Converter 2.0 Professional

The first and only product that combines PDF creation from any PC application with the amazing ability to turn PDF files into fully-formatted Microsoft Word documents. This solution includes everything you need to create, convert and edit PDF documents and forms – in one affordable and easy-to-use product.



\$159

WebCode: SCA0008

ScanSoft PaperPort® 10

PaperPort 10 is the easiest way to turn piles of paper and photos into organised digital files that you can quickly find, use and share. PaperPort provides a unique visual desktop that displays small thumbnails of your documents for fast browsing. End the frustration of looking for paper or digital documents by searching for words inside your files with the exclusive All-in-One Search. Save time and have the security of knowing that important documents and photos will never be lost.

- The No. 1 way to turn piles of paper into organised digital documents
- Get organised and never lose a document again

Academic (SCA0021) \$140



Full
WebCode: SCA0019 **\$170**

ScanSoft Dragon NaturallySpeaking™ 8 Standard Edition

Dragon NaturallySpeaking 8 is the fast, easy and accurate way to convert talk into text. Specially designed for Australian speech and more accurate than ever before – achieve outstanding accuracy levels of up to 99%!

Talk to your computer and watch your words instantly appear in letters, e-mails, instant messages and chat rooms. Dictate and edit by voice in your favourite Windows applications including Microsoft Word, Microsoft Outlook Express and Corel WordPerfect. It learns to recognise your voice in five minutes and gets better the more you use it!



Full
WebCode: DRG0003 **\$170**

ScanSoft OmniPage Pro® 14 Upgrade

OmniPage Pro 14 helps you reach new levels of productivity by eliminating the manual reproduction of documents. Precision OCR technology, advanced layout analysis and powerful editing capabilities allow you to quickly and cost effectively turn your paper documents into over 30 different PC application file formats so that you can take practically any file and use it where you need it.

Custom workflow creation makes it easier than ever to handle large volumes of paper – helping to streamline the conversion process and complete your work faster than ever. Ideal for individuals and home office use, OmniPage Pro 14 delivers everything you need to efficiently convert, edit, process, and share your paper and PDF documents.



Full
WebCode: SCA0001 **\$209**

ScanSoft OmniForm® 5.0

OmniForm 5.0 enables you to quickly turn paper forms into digital forms, or to create new digital forms from scratch. These forms can be printed and distributed, or they can be sent via e-mail so that recipients can fill them out on their computers. OmniForm 5.0 comes with a complete set of pre-designed templates to facilitate the creation of new forms.

This product makes it possible to quickly and accurately scan-in forms such as applications, insurance forms, surveys, purchase orders, etc., and instantly convert them to digital forms.

OmniForm Premium 5 Full (CAE0001) \$1975

OmniForm Premium 5 Upgrade (CAE0003) \$975



Full
WebCode: CAE0002 **\$310**

ScanSoft PaperPort® Professional 10

Get sorted with the industry standard in desktop document management. The latest edition of PaperPort Professional helps you easily organise, find and share your paper and digital documents. PaperPort Professional 10 is the most productive and cost effective way for everyone in your office to organise, find and share paper and PDF documents.

PaperPort Professional combines the efficiency of document management, the convenience of network scanning and the power of creating PDFs, to bring a new level of operational proficiency to your organisation. Organise and assemble documents with drag-and-drop ease – just as if they were paper.

Academic (SCA0021) \$305



Full
WebCode: SCA0019 **\$335**

ScanSoft Dragon NaturallySpeaking™ 8 Preferred Edition

Dragon NaturallySpeaking 8 Preferred enables small business and advanced PC users to create documents, spreadsheets and e-mail – all by speaking! Talk to your computer and your words instantly and accurately appear in virtually all Windows-based applications.

Listen to incoming e-mail and documents read aloud. Search the Web by speaking URLs and links. Use dictation shortcuts that enable you to insert blocks of texts or bitmaps – such as your name, title and signature – with a single voice command. Dictate directly into a PC or any ScanSoft-approved handheld digital recorder (noise-cancelling microphone included).

Upgrade (DRG0004) \$170

Academic (DRG0005) \$300



Full
WebCode: DRG0002 **\$340**

ScanSoft OmniPage Pro® 14 Office

OmniPage Pro 14 Office is a powerful productivity tool that delivers the most accurate and precise document conversion available today. Quickly turn PDF files and stacks of paper (letters, contracts, tables, manuals) into easily editable word processing and spreadsheet documents. Ideal for desktop, workgroup and enterprise use, OmniPage Pro 14 Office delivers everything you need to efficiently convert, edit, process, and share your paper and PDF documents.

- Instantly convert into Microsoft Office documents
- Turn PDF files into editable documents while retaining their layout
- Automatically process images from network MFPs and scanners

Upgrade (SCA0006) \$285



Full
WebCode: SCA0005 **\$1065**

ScanSoft OmniForm Filler® 5.0

OmniForm Filler 5.0 is the low-cost solution that lets users in an office or workgroup fill out forms created in OmniForm while protecting the form design from modification. Easy tab-and-type entry makes filling out forms simple, and with AutoFill, drop-down choices, and automatic calculations you get perfect results every time. The automatic database keeps a record of all your entries, which you can search, sort, and update on a stand-alone PC or over a network.

OmniForm Filler 5.0 has a complete set of features that ease form filling, increase the accuracy of information entered into the form, and extend the information captured in the form to a centralised database on a network.



Full
WebCode: SCA0022 **\$79**

Vet Net Surfer Anti-Virus

Don't leave virus protection to chance - purchase Vet Net Surfer now to automatically protect your PC from viruses, worms and trojans, including those arriving via email. Vet customers receive free unlimited phone and email support, as well as daily Virus Updates and free new versions - all for one year! All the anti-virus you need.

- **Free Local Support** - Vet is well-known for its expert, accessible and friendly technical support service, freely available to registered Vet users.
- **Free Unlimited Full Version Upgrades and Virus Updates** - Unlimited access to the Vet web site upgrade service for one year ensures that you have the most up-to-date protection available.
- **Hands-Free Updates** - Vet is fully automatic - if you choose the default installation, then Vet will automatically download and install a new Virus Update daily.
- **Advanced Technology** - Vet is highly regarded for its virus detection, consistently performing well in independent tests. Vet automatically detects and cleans viruses without user input.



WebCode: CHY1012

\$75

Introduction to Computer Security

In this authoritative book, widely respected practitioner and teacher Matt Bishop presents a clear and useful introduction to the art and science of information security. Bishop's insights and realistic examples will help any practitioner or student understand the crucial links between security theory and the day-to-day security challenges of IT environments.



\$88

Websearch Code: PGN0003

Vet Anti-Virus Enterprise 10.64

Protect your business PCs against viruses with the Vet Enterprise licence allowing you to install Vet onto multiple PCs and ensuring that all possible avenues for virus invasion are blocked. Vet Enterprise is available for 2 PCs, 5 PCs, 10 PCs and 25 PCs.

Vet Enterprise offers protection from all types of viruses, complete with access to almost daily Virus Updates, regular Full Product Upgrades, and unlimited phone and email assistance for the duration of the licence.

- **Free Local Support** - for 12 months
- **Free Unlimited Full Version Upgrades and Virus Updates**
- **Advanced Technology**



2 User Edition

\$125

WebCode: CHY1013

5 User Edition

\$285

WebCode: CHY1014

10 User Edition

\$545

WebCode: CHY1015

eTrust Pest Patrol Anti-Spyware

eTrust Pest Patrol Anti-Spyware detects and removes a wide variety of spyware to protect your PC from unauthorised access, information theft and diminished system performance. Spyware, adware and other threats are rapidly spreading, and represent a major security and privacy risk. eTrust Pest Patrol reduces this risk and provides an added layer of protection for safe internet connectivity.

- **Comprehensive Spyware Detection and Removal** - Provides complete protection against spyware, adware, keyloggers, Remote Access Trojans (RATs), and browser hijackers
- **Real-time Protection** - Proactively protects your PCs against new spyware threats
- **Active Protection** - Kills active pests in memory and zaps spyware cookies before they can phone home about you
- **Automatic Updates** - Makes sure you're always covered against the latest spyware threats
- **Detailed Scan Results** - Delivers the specific threat level of any pest found, and allows you to link to our pest database for more information
- **Security you can Trust** - Your security is backed by the industry's largest research team, the CA Security Advisory Team

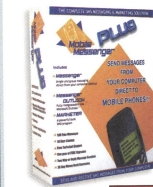
WebCode: CHY1019

\$45

Mobile Messenger

The complete SMS messaging solution, SMS or Short Message Service is a message sent to mobile phones with a maximum of 160 characters. Mobile Messenger has developed a gateway that connects into the mobile phone system. This enables SMS messages to be sent and received from outside sources such as computers and websites.

Mobile Messenger Plus provides businesses of any size with the complete messaging and marketing solution in a box. The Mobile Messenger Plus program contains complete SMS integration into Microsoft Outlook. These programs make sending single, group or bulk messages easy. The Mobile Messenger Plus comes with a ten user licence and 100 free messages. There is NO time limit on message use and there are NO ongoing service fees or monthly fees. Only pay for messages used.



WebCode: MMP0002

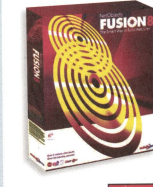
\$99

NetObjects Fusion 8

NetObjects Fusion's intuitive, graphical publishing engine allows novice Web builders to easily understand how to publish their sites, while giving advanced Web designers the powerful features they need to manage even the largest and most complex sites.

You have full control of your published site, including the ability to add, delete, and move individual files on remote FTP, SFTP or WebDAV servers, all from within NetObjects Fusion without requiring any third-party FTP programs. Your publishing settings can be easily saved and applied to multiple sites. And now you can publish single pages without having to republish parent or child pages, reducing your upload times considerably.

Upgrade (NET0041) \$220
Educational (NET0042) \$260



WebCode: NET0040

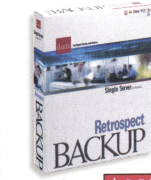
\$310

Dantz Retrospect Backup 7.0

Retrospect Multi Server, Single Server, Disk-to-Disk, and Small Business Server, excel at meeting the needs of small and midsize businesses that want to protect networks of Windows, Macintosh, and selected UNIX-based and Linux-based computers by backing them up to a Windows-based backup server.

Retrospect Professional is designed for home and small office users who want to protect a single Windows computer and up to two additional networked Windows or Macintosh desktops and notebooks by backing them up to a Windows-based computer.

Professional (DAN0012) \$208
Disk to Disk (DAN0016) \$482
Small Business Server Standard (DAN0014) \$805
Small Business Server Premium (DAN0015) \$1205
Multi Server (DAN0017) \$2095
UPGRADES AVAILABLE



Single Server

WebCode: DAN0013

\$1120

Smart Security, Smart Price!

Standard Version

Gain complete protection with this security bundle from Symantec. Symantec's Norton SystemWorks 2005 for Windows and Norton Personal Firewall 2005 for Windows will provide any home user with a total solution.

- Norton AntiVirus 2005
- CheckIt Diagnostics
- Norton Utilities
- System Optimizer
- Norton GoBack 4.0
- Norton Personal Firewall 2005

Smart Bundle!



Standard
\$129
WebCode SYM9813

Smart Security, Smart Price!

Premier version

Protect your business with this complete security bundle from Symantec. Symantec's Norton SystemWorks 2005 Premier for Windows and Norton Personal Firewall 2005 for Windows will help protect you from outside threats.

- Norton AntiVirus 2005
- CheckIt Diagnostics
- Norton Utilities
- System Optimizer
- Norton GoBack 4.0
- Norton Personal Firewall 2005
- Norton Ghost 9.0

Smart Bundle!



Premier
\$157
WebCode SYM9816

Internet Security Solutions



Key Features:

Which is right for you? Use this handy table to compare our Internet Security solutions.

	Norton AntiVirus 2005	Norton AntiSpam 2005	Norton Personal Firewall 2005	Norton Internet Security 2005
	Single User (SYM9585) \$75	Single User (SYM8494) \$65	Single User (SYM8495) \$80	Single User (SYM8496) \$114
Removes viruses, worms, and Trojan horses automatically	•			•
Scans and cleans email and instant messages of viruses	•			•
Detects certain non-virus threats such as spyware	•			•
Blocks Internet worms at the point of entry	•			•
Detects viruses in compressed file archives in real-time	•			•
Filters out spam email		•		•
Blocks email in selected languages		•		•
Detects offensive email		•		•
Blocks banner ads and pop-ups		•	•	•
Hides your computer from hackers			•	•
Blocks online intrusions			•	•
Protects your personal information on the Internet			•	•
Blocks inappropriate or distracting Web sites				•
Allows different Internet access privileges for several users				•
Notifies you about high-level Internet threats				•
Downloads new protection updates automatically	•	•	•	•

Looking for the latest licensing options? Speak to our managed accounts team on 1300 761 761

3 Pack
(SYM8511) **\$119**

5 Pack
(SYM9587) **\$180**

10 Pack
(SYM9590) **\$310**

Academic
(SYE6130) **\$49**

5 Pack
(SYM8514) **\$168**

10 Pack
(SYM8522) **\$265**

Academic
(SYE6118) **\$44**

5 Pack
(SYM8499) **\$195**

10 Pack
(SYM8520) **\$385**

Academic
(SYE6129) **\$52**

3 Pack
(SYM8512) **\$181**

5 Pack
(SYM8514) **\$272**

Symantec Norton GoBack 4

Restore your PC to a healthy state by going back minutes, hours, or even days (depending on available disk space). Or you can use it to recover individual files and folders, such as accidentally deleted files and previous versions of documents. The new SafeTry Mode makes it easy to recover from problematic software installations.

Academic
(SYE6117) **\$44**



WebCode SYM8519 **\$64**

Symantec Norton Ghost 9.0

Symantec's Norton Ghost 9.0 provides advanced backup and recovery for your PC. Protect your data by making a backup of your hard drive's contents - without restarting Windows. Incremental backups save you time and disk space. You can even schedule backups to run automatically. Quickly restore individual files, selected folders, or the entire hard drive.

Academic
(SYE6116) **\$78**



WebCode SYM8517 **\$121**

Norton SystemWorks 2005 Premier 5 User

Symantec's Norton SystemWorks 2005 Premier gives you powerful tools to solve PC problems and protect data. This easy-to-use suite helps you eliminate viruses, back up your files, and prevent computer problems. A new recovery disk allows you to recover data even when Windows won't start up.

10 User Pack
(SYM8524) **\$459**



WebCode SYM8494 **\$315**

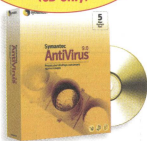
Symantec Gateway Security 300 Series

The Symantec Gateway Security 300 Series is the high-performance, low-maintenance firewall appliance for small businesses. It combines comprehensive security, a reliable Internet gateway, and a secure wireless LAN option in one affordable solution.

The security component includes a stateful inspection firewall, secure IPsec VPN connectivity, intrusion detection, intrusion prevention, content filtering, and policy enforcement for Symantec connected antivirus clients.

The network component supports high-speed Internet sharing, routing, and redundancy, along with an optional secure wireless LAN access point. An intuitive setup wizard and Symantec's exclusive LiveUpdate™ technology make setup and maintenance a breeze, while its licensing options eliminate the hassle and cost of monthly subscription charges. To get you up and running, Symantec includes 90 days of technical support.

**BONUS Wireless
Add-on Kit Plus
BONUS Symantec
AntiVirus 9.0 5-User
(CD only)**



Model	320	360	360R
Maximum Rec. Nodes	50	100	100
Stateful Throughput	55Mbps	60Mbps	60Mbps
VPN 3DES Encryption	10Mbps	15Mbps	15Mbps
VPN AES Encryption	TBD	TBD	TBD
Memory	60MB	64MB	64MB
10/100 Ethernet Ports	1 WAN/4 LAN	2 WAN/8 LAN	2 WAN/8 LAN
Wireless LAN Option Slot Accepts	802.11b/g option	802.11b/g option	802.11b/g option
Connections Per Second	TBD	TBD	TBD
Concurrent Connections	10,000	10,000	10,000
VPN Clients	Optional	Optional	10 mode included



Buy any SGS 300 series appliance until 31st March 2005 and receive: BONUS Wireless Add-on Kit valued at \$349 RRP... PLUS BONUS Symantec AntiVirus 9.0 5-User (CD-only) valued at \$397 That's a saving of over \$746

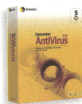
Symantec AntiVirus 9.0 Business Packs

Provide powerful, easy-to-manage protection - automatically removing viruses, worms, and Trojan horses from your desktops and network servers, delivering timely updates, and defending your business against known and emerging threats. Plus, it scans incoming POP3 attachments for viruses and stops worms from propagating via outgoing email.

Features:

- Protect your desktops and servers against viruses
- Automatically remove viruses
- Centrally install, update, and manage
- Defend against known and emerging threats

10 User (SYM2547) \$735
5 User with Groupware (SYM2549) \$549



5 User
WebCode SYM2540 **\$397**

Symantec pcAnywhere 11.5 Host & Remote

Combines secure, industry-leading remote control with remote management and advanced file transfer to help IT personnel quickly resolve helpdesk and server support problems. Offers comprehensive security, including support for 13 authentication types. Advanced security with 13 different authentication methods including RSA SecurID.

Academic (SYE6133) \$160
Host only (SYM2566) \$155
5 User (SYM2565) \$535



Host & Remote
WebCode SYM2564 **\$252**

WinFax Pro 10.02

WinFax PRO 10.02 is the leading fax management software for small businesses. Its high-quality faxes help you project a professional image to your clients and customers. When image clarity is vital, you can generate photo-quality faxes. You can even send or forward faxes via email to people who don't have fax hardware or software.

Home/XP Academic (SYE6008) \$83



Home/XP Academic
WebCode SYM2208 **\$116**

Norton Partition Magic 8

Symantec's Norton Partition Magic 8.0 lets you easily organize your hard drive by creating, resizing, copying, and merging disk partitions. Separate your operating system, applications, documents, music, photos, games, and backup files to reduce the risk of data loss if your system crashes. You can use Norton Partition Magic 8.0 to run multiple operating systems safely.

Academic (SYE6111) \$66



Academic
WebCode SYM2560 **\$88**

Symantec LiveState Recovery Standard Server 3.0

Provides system and data recovery for non-mission-critical environments such as file and print servers. This solution is also designed to quickly recover Windows-based servers from failures. Symantec LiveState Recovery Standard Server delivers many of the same high-level backup and recovery benefits as Symantec LiveState Recovery Advanced Server, with the exception of incremental backups, event-driven backups, consolidated backup sets, disk-to-disk copy, and files written directly to CD or DVD.



1 User
\$1375
WebCode SYM1021

Symantec LiveState Recovery Desktop 3.0

Provides system and data recovery for Windows-based desktop PCs and remote laptop systems, enabling quick recovery to quickly recover failed Windows-based desktop PCs and remote laptop systems back to an operative state. Allows organizations to recover desktop volumes, complete a bare metal restoration or recover individual files/folders in minutes as opposed to manually rebuilding systems, which could take hours or even days.



1 User
\$115
WebCode SYM1024

5 User
\$578
WebCode SYM1025

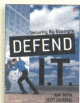
Small Business Protection

RENT SMART
Because buying isn't

SEE PAGE 3 FOR DETAILS

Defend I.T. Security By Example

A plethora of real-life case studies illustrate how to secure computer networks, and provide examples on how to avoid being attacked. 320 pages.



Book-Paperback

\$51

WebCode: PGN0001

The Tao of Network Security Monitoring: Beyond Intrusion Detection

Quickly develop and apply the skills needed to detect, prevent, and respond to new and emerging computer security exploits. 736 pages.



Book-Paperback

\$74

WebCode: PGN0004

Firewalls and Internet Security

This book is the bible of Internet security. Whatever else is in the market, this one is at the very top of the list. Notable for its engaging style, technical depth, and the clear real-world experiences of the authors. 464 pages.



Book-Paperback

\$93

WebCode: PGN0002

VCOM System Suite 5

VCOM SystemSuite 5 is a comprehensive collection of essential PC utilities designed to monitor and protect your PC to keep it running just like the day you bought it. With VCOM SystemSuite you can improve system performance, protect and secure your system, diagnose computer problems, recover lost data, protect against spam, and more!

**\$88**

WebCode: VCM0010

CyberLink Power Back-Up

Viruses, theft, even power outages can result in lost or damaged files. Avoid these problems through scheduled archiving with PowerBackup. With PowerBackup you can easily archive large amounts of files on one or more DVD discs, which can be easily carried away from your office or home.

**\$44**

WebCode: CYB0022

McAfee Easy PC Protection 2005

Automatic and virtually effortless protection! Up to date antivirus and firewall protection is essential for smart, safe computing. McAfee® Easy PC Protection is a comprehensive, easy-to-use and automatic way to safeguard your PC, you and your family from online threats. Install it for around-the-clock protection.

**\$60**

WebCode: MCP2009

McAfee SpamKiller 2005 v6.0

New anti-spam laws alone won't prevent credit card scams, embarrassing product pitches and other annoying messages from flooding your inbox. Your best reply is McAfee SpamKiller!

**\$39**

WebCode: MCP2063

Net Nanny 5 Special Edition

Net Nanny, the world's leading parental control software, provides you with the broadest set of Internet safety tools available today. The award-winning software gives you control over what comes in and out of your home through your Internet connection, while respecting your personal values and beliefs. Net Nanny 5 is easier to install and configure than any similar product.

**\$43**

WebCode: NAN0001

Manacom Publish PDF

Save virtually any document (from MS Word to complex graphs) in the popular Portable Document Format (PDF). A PDF file preserves the format of the original document, and contains all the original fonts, images & graphic information, layout and formatting – so what you see is exactly what everyone else sees. A PDF file can be viewed and printed from any computer running almost any operating system.

**\$80**

WebCode: MAN0007

Net Nanny Chat Monitor

If you're not watching... Who is? Net Nanny®'s Chat Monitor discreetly monitors, filters, and blocks popular chat and instant messaging programs, notifies you when your child is in a potentially risky conversation, limits time spent online chatting, and stops your child from giving out personal information.

**\$49**

WebCode: NAN0002

Manacom Publish PDF Pro

PublishPDF Pro has all the excellent features of the standard PublishPDF, but has extra security features to make it more suitable for sensitive information. Document security is increasingly important for companies the world over. PDF files, like other file formats, can be edited unless they are protected by encryption. Also included in PublishPDF Pro are other advanced features such as bookmarks and URL links.

**\$160**

WebCode: MAN0008

McAfee Personal Firewall Plus

On broadband or dial-up, McAfee Personal Firewall Plus provides a secure, always-on barrier between your computer's hard drive and hostile Internet threats. It combines perfectly with your McAfee VirusScan anti-virus protection for multi-layered PC defense against sophisticated viruses like Mydoom, which can open up communication backdoors on computers.

**\$44**

WebCode: MCF2062

McAfee Internet Security Suite 2005

This all-in-one security suite incorporates award-winning McAfee technology so that you can surf, shop, download and email in confidence. Easy to install, configure and use, McAfee Internet Security helps safeguard personal data, prevent viruses, stop unauthorized computer access, filter spam from your inbox and block pop-up ads—all in one powerful, fully integrated package.

**\$110**

WebCode: MCF2064

McAfee QuickClean 2005 v5.0

Clean up your PC to keep it working its best with McAfee QuickClean. This super-efficient junk-buster helps safely eliminate Web and PC clutter without deleting essential information. For security peace of mind, it also permanently erases private documents, memos and email no one else needs to see.

**\$44**

WebCode: MCF2065

McAfee Anti-Spyware 1.0

McAfee AntiSpyware detects and eliminates potentially dangerous applications running on your system. Advanced Auto-Protect Technology alerts users when potentially hostile applications attempt to install & run – providing options to block the threat. Don't rely on Antivirus and Firewalls alone!

**\$44**

WebCode: MCF2069

Trend Micro Internet Security 2005

Superior Protection For Your PC!

- Home Network Control
- Spyware Detection & Removal
- Wi-Fi Intrusion Detection
- Virus Protection
- Anti-Phishing
- Spam Filtering
- Firewall Security
- Parental Controls
- Security Check
- Includes 12 months of updates & support!

Upgrade \$60
Academic \$65



\$85

WebCode MAN0028

Manacomm Spy Cleaner Gold

Scan and remove spyware, adware and malware to protect your privacy! Scan your PC with Spy Cleaner Gold and see how much spyware is on your computer!

Works with... Windows XP, NT, ME, 95, 98 and 2000. Clear, Adware, AdvertBar, Alexa, Auresate, BDE Projector, CashBar, Comet Cursor, CommonName, Cysdor, DoubleClick, EverAd, eZula, ExpediWare, EWA, TopMoxie, Transponder, Web3000, WebHancer, ZapSpot...and many more.



\$41

WebCode TOP0095

Manacomm Acronis True Image 8

The complete data backup and recovery solution

- Create an exact copy of your PC for a full backup without leaving Windows®
- Restore files quickly and safely
- Schedule backups automatically
- Write images to removable media
- Now with disk cloning & deployment tools!

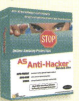


\$88

WebCode ACR1000

AS Anti-Hacker Standard

The must-have software for online transaction protection. It auto-protects online entry of user IDs and passwords against unidentified hackers. Includes Active Protect, Password Entry Protection Gate (PEPG), Auto-Update, System Scan, Computer Cleaning and Security Tools.



\$77

WebCode AVA0001

Manacomm Media Recover

Recover Lost Photos, Audio & Video!

- Easily recover and fix lost photos, audio and video;
- Recover files even after accidental deletion, a format or corruption;
- For digital cameras and all removable media.

Recovers the following types of files:
Images - JPEG, EXIF, TIFF, PNG, GIF, BMP, RAW Images; Canon CRW, Nikon NEF, Kodak DCF, Others
Audio/Video clips - AVI, MOV, MPEG/MPG



\$49

WebCode MAN0024

Manacomm ZoneAlarm Security Suite

The Complete Security Solution (ZoneAlarm Pro Firewall, Antivirus & Privacy Protection) NEW Anti-Spam (Auto Spam Detection adapts to the changing techniques of professional spammers to rid your inbox of latest junk emails.

NEW Anti Phishing (Protects you from "phishing" attacks; a new type of Internet scam designed to steal your credit card and bank account numbers, user names and passwords).

- Includes 12 months of upgrades and updates



\$95

WebCode MAN0040

Manacomm ZoneAlarm with Antivirus

Award-Winning Security & Antivirus Protection (#1 Firewall)

- Stop Hackers and Cybercriminals
- Protect Against Harmful Viruses
- Block Spyware and Worms
- Hide your computer using Stealth Mode
- Monitor Inbound/Outbound E-mail Activity
- Simple Set-Up and Control
- Includes 12 months Upgrades & Updates



\$77

WebCode MAN0039

Day3 SureExchange Microsoft Exchange Server 2003 without the hassles!

Did you know that you can have the power of Microsoft Exchange Server 2003 without the capital expenditure of hardware, software and support? SureExchange -- Day3's hosted Microsoft Exchange service -- brings this unprecedented value offering to small and mid-sized business today!

This all-inclusive solution comes with full access to centralised e-mail, calendaring, contact management, distribution lists and public folders using your regular Outlook client or from any computer using just a web browser.

Imagine having common calendars, shared contacts and the power of Exchange anywhere and at any time. With SureExchange, Microsoft Exchange is secure, accessible and easily manageable by you and your staff wherever you are located.

Day3's SureExchange transforms Exchange Server 2003 from software and hardware that your company would normally purchase and maintain, into a pay-as-you-go service delivered over a secured Internet connection. This innovative approach provides Enterprise-class IT infrastructure, operations and services to any size company, lightening the load for your IT department and helping your company focus on core business functions.

- Coordinate staff daily schedules through personal calendar tools.
- Work with other staff to arrange and prepare for meetings.
- Book or reserve popular shared company resources.
- Access your email and Outlook work tools through web-enabled devices... even your PDA!
- Email, calendars and contacts are constantly synchronised so you always have the most up-to-date information when online.
- Stay focused and get more done with your personal task list.
- Access up-to-date shared contact lists of important groups such as clients and suppliers.

\$2.00/month SureMessage (anti-spam/anti-virus) protection upgrade (normally \$3.75/month). Two months free trial of hosted Microsoft SharePoint... your instant company intranet!

Included is 100 MB of disk space... and order from City Software today for FREE setup (normally \$50!)

Call our Managed Accounts Team on: 1300 761 761

Web Access Only

\$14

Per Month

\$19

Day3 SureMessage Hosted Anti-Spam/Anti-Virus

SureMessage is the simple and effective way to protect from reaching your mailbox. Just sign up for the service and SureMessage takes care of the rest. You hardly need any technical knowledge, you don't install any server software, and you don't pay by volume. To top it all, SureMessage is backed by Day3's unbeatable 60 day money-back guarantee. No worries!

Advanced feature set includes:

- Managed service saves you money and worry
- Integrated spam and virus filtering
- User-level searchable spam quarantine
- No volume charges means no surprises
- Quick and easy setup in under an hour

No Software to Install

\$45

Per Year Per User

SureExchange plus SureMessage bundle

The best of both worlds

Hosted MS Exchange Server 2003 PLUS advanced spam and virus protection with SureMessage.



\$319

WebCode AVA0003

Per User Per Month

\$21

RENTSMART
Because buying isn't

SEE PAGE 3 FOR DETAILS

Digital Video in a Snap

- Covers popular digital video editing and authoring tools
- Book is organized into short, bite-sized tasks that are quickly accomplished by the average user
- Written by an author who is an expert trainer, teacher and technical writer



Digital Video



Book-Paperback

\$35

WebCode PEN0028

NTI CD & DVD Maker 7 Platinum

NTI CD & DVD-Maker 7 offers powerful yet user-friendly software to maximize the potential of CD and DVD writers. NTI CD & DVD-Maker 7 is loaded with new features and is sporting a brand-new look and feel.

Titanium (VCM0012) \$115



\$72

WebCode VCM0011

HitVideoLab Home Theatre Headset

Get the most out of your next DVD viewing experience! The HitVideoLab 6 channel home theatre headset is an innovative way for people to enjoy the awesome sound of Dolby Digital AC-3 or DTS Digital Surround.



\$99

WebCode HVL0001

Roxio Creator 7

Roxio Creator 7 is the all-in-one, award-winning solution for your digital media. Including fully integrated applications Easy CD&DVD, Photosuite 7 Platinum and VideoWave 7 Pro. Advanced tools and automated features allow beginner or expert to capture, edit, enhance and burn professional photo, video, music and data projects quickly and easily.



\$143

WebCode ADA7539

Roxio Photosuite 7 Platinum

Professional photo editing made easy. Instantly correct common photo problems and transform ordinary photos into personal masterpieces. Create stunning projects like calendars or holiday cards with point-and-click ease. Preserve a lifetime of precious memories on CD and share them in the comfort of your living room. The new Photosuite 7 Platinum - Simply Picture Perfect.



\$99

WebCode ADA7539

Sony Vegas 5 & Vegas+DVD

With powerful video and audio production tools, Vegas software provides a complete and integrated solution for digital video, audio recording, editing and mixing, streaming content creation and surround sound production. Includes bonus ACID Music Studio valued at \$220!

- Vegas+DVD full \$1130
- Vegas 5 upgrade \$248
- Vegas+DVD upgrade \$400



\$748

WebCode SFR0010

Sony Vegas Movie Studio+DVD

Vegas Movie Studio and DVD Architect Studio software provide you with a powerful, integrated way to use the set of features that lets you bring your collection of videos, digital photos and music to life. Includes interactive tutorials. Use DVD Architect Studio software to burn your creations to DVD, produce movies containing multiple menus, buttons and links, or create slideshows and music compilations.



\$220

WebCode SON0010

Roxio Toast 6 Titanium

New Toast 6 Titanium is the standard for CD & DVD burning on Mac OS X. Secure your important data; digitize old records; turn still photos into stunning media shows with Hollywood-style special effects; make video discs automatically from your DV camcorder. Burn VCDs, SVCDs, and DVDs with menus. Toast 6 is the essential foundation for your digital life! Get more out of your iLife - Roxio Toast 6 helps you do even more with iTunes, iPhoto, iMovie and iMovieShare!



\$132

WebCode ADA7537

Roxio VideoWave 7 Professional

Roxio VideoWave 7 Professional makes it easy to edit and produce Hollywood-style videos complete with music, transitions, special effects, text credits and theater-rich Dolby Digital sound. Author and burn professional-quality DVDs with animated menus and resizable buttons. VideoWave 7 Professional - the only video editing software you need.



\$121

WebCode ADA7540

Sony ACID Pro 5

ACID Pro software is the original loop-based music creation application. This award-winning program lets you create original songs, remix tracks, produce 5.1 surround mixes, develop music beds, score videos, and more. Intuitive "pick, paint, and play" interface. Advanced professional features include over 1,000 royalty-free loops and Native Instruments VSTi soft synth bundle. Includes bonus Sound Forge Studio valued at \$220



\$549

WebCode SON0018

Sony ACID Music Studio 5

Turn your PC into a music creation studio! Built on award-winning ACID software technology, ACID Music Studio software provides all the tools you need to create your own music, remixes, soundtracks and CDs. Simply select from over 1,000 professionally recorded music loops in multiple genres and instrumentation, paint them into the tracks, and play them back. ACID Music Studio software automatically matches the tempo and musical elements so everything plays back together and sounds great.



\$220

WebCode SON0011

Roxio Toast with Jam 6

Make your Toast sing with Jam. Toast with Jam delivers the full CD and DVD burning power of Toast plus pro audio editing and mastering for Mac. Produce commercial CDs and demos with impeccable quality. Import your favorite file formats, tweak your music with Bias Peak LE TM VST TM, arrange your tracks and burn a glass master.



\$319

WebCode ADA7541

Nero 6 Reloaded

All of your CD and DVD burning tasks can be managed in a breeze with Nero 6. Burning DVD video, photo, data, audio or backup Nero handles all the possibilities with ease. Included within the burning solution, you can edit audio, mix multiple audio tracks like recording studio professionals, watch VCD, SVCD and DVD movies, listen to music, design covers, optimise your drive's performance and more.



\$159

WebCode NER0003

Sony Sound Forge 8

Sound Forge software is an award-winning digital audio editor that includes a powerful set of audio processes, tools, and effects for recording and manipulating audio. Sound Forge 8 now includes CD Architect software for producing professional Red Book audio CDs. These industry-standard applications are the professional's choice for audio editing, audio recording, effects processing, streaming content creation, CD mastering, and more. Includes bonus CD Architect and Noise reduction filter valued at \$319



\$616

WebCode SON0019

Sony Sound Forge Audio Studio 7

Turn your PC into an audio recording and editing studio! Sound Forge Audio Studio software provides all the tools you need to record your own music, edit audio, create streaming media and burn songs to CD. Capture live recordings of your music, instruments or vocal performance, or import music from your own CDs. Edit audio in over 10 popular formats. Apply over 30 built-in effects such as EQ, Reverb, and Delay.



\$220

WebCode SON0012

Pinnacle Instant Copy 8

Make copies of your DVDs and CDs faster and easier than ever. Featuring a friendly interface and revolutionary duplication technology, Pinnacle Instant Copy burns bit-for-bit CD and DVD copies at unbeatable speeds! It's the smart way to make true 1:1 copies of DVD movies, transfer DVD content to Video CDs, and backup any CD media, including data, music, and video discs.



\$110

WebCode PIN0080

Pinnacle Instant CD/DVD

With drag and drop simplicity, Pinnacle Systems Instant CD/DVD software accomplishes all the tasks associated with a disc burning project. It encodes MP3 files, burns audio CDs, duplicates CDs and DVDs, backs up data, and even creates photo and video slideshows that can be viewed on practically any home DVD player.



\$143

WebCode PIN0091

Pinnacle Instant VideoAlbum

Preserve and share all of your taped home videos onto DVD with Pinnacle Instant VideoAlbum. Instant VideoAlbum is designed to provide the highest quality results with the lowest possible learning curve. The software includes tools for trimming unwanted video and improving poorly lit shots.



\$94

WebCode PIN0063

Pinnacle Instant PhotoAlbum

Quickly organise your digital photos and video clips into interactive, high-resolution slideshows, burn them onto CD or DVD and watch them on your TV with Instant PhotoAlbum. Instant PhotoAlbum quickly turns your photos into exciting productions that you can share and enjoy with friends and family for years to come.



\$65

WebCode PIN0063

Steinberg Clean 5

Clean up those dirty, poorly compressed recordings with Steinberg, the all-in-one audio restoration and CD burning solution. Developed by Steinberg, replaces new line into your vintage vinyl, old cassettes and questionable MP3 files.



\$89

WebCode PIN0095

Steinberg Clean Plus 5

Steinberg Clean Plus uses today's leading-edge audio restoration technologies to remove unwanted pops, clicks, hiss and hum from your old vinyl LPs and cassettes, leaving your tracks sounding as good as the day you bought them. It's the perfect tool for archiving and preserving your entire music library.



includes
PRE-AMP

\$220

WebCode PIN0064

Steinberg Cubasis VST 5

Create original compositions like the pros quickly and easily. The software features up to 48 audio channels, 64 MIDI tracks, a professional mixer with real-time effects and a huge variety of virtual instruments. Compose songs, edit sounds, print your scores and burn CDs with surround sound.



\$215

WebCode STE0001

Ulead PhotoImpact 10

PhotoImpact 10 gives you the most innovative image editing tools for the PC. Edit, manage and share digital photos, plus so much more. More digital photography tools, more filters and effects, more content and more learning resources. It's everything you need to produce professional results.



\$187

WebCode ULE0058

Ulead My Scrapbook 2

Everything you need to create scrapbook pages, background paper, clip art and titles on your computer. Customise and print a variety of scrapbook-themed pages and background paper to 8.5"x11" or 12"x12" format. Improve not-so-great photos with commonly used photo-editing tools. It's your complete scrapbooking software.



\$49

WebCode ULE0056

Ulead DVD Picture Show 3 Deluxe

The ideal companion for your digital camera, combining two powerful programs for managing your photos and creating exciting multimedia slideshows that play on your DVD player.



\$89

WebCode ULE0061

Ulead DVD Movie Factory 3 Disc Creator

Ulead DVD MovieFactory 3 Disc Creator is a whole new world of CD and DVD making. Burn movies, slideshows, data and music to CD or DVD in an instant.

- Upgrade (ULE0045) \$145
- Academic (ULE0046) \$145



\$187

WebCode ULE0044

Ulead Video Studio 8

If you've never edited a movie before, make one in three easy steps using the new Movie Wizard mode. Share finished projects on DVD, tape, the Web, and mobile devices. Unmatched stability, high-speed rendering and real-time performance mean less waiting and more time for creating.

- Upgrade (ULE0051) \$99
- Academic (ULE0052) \$115



\$179

WebCode ULE0050

QuarkXPress 6.5

Much more than a page layout tool, QuarkXPress 6.5 provides proven performance with graphics and colour management, text processing, Web-page design, XML, output and more!

QuarkXPress is powerful layout software with an intuitive, versatile interface that lets you combine writing, editing, and typography with color and pictures to produce dynamic final output.

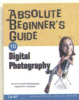
- Supports Mac OS X v10.2, Windows 2000, and Windows XP.
- Synchronise text for speed and accuracy - save time and reduce the number of data entry errors.
- Create PDF files directly from QuarkXPress without having to buy third-party software.
- Upgrade from 4 \$935
- Upgrade from 5 \$635
- Academic \$1199



Full
\$2499
WebCode WIN DIA0026
WebCode MAC DIA0025

Book: Absolute Beginner's Guide to Digital Photography

You have a digital camera. Now what? Learn to make great pictures from taking photos and photo editing to printing and posting on the Web.



\$23

WebCode PIN0042

Video & Photo Editing

RENTSMART
Because buying isn't

SEE PAGE 3 FOR DETAILS

Business PlanMaker Professional

Whether you're starting a business or expanding your organization, Business PlanMaker helps you create professional business plans that ensure financial success. It's the easiest-to-use, most powerful, and professional business plan program available. Just answer the questions, put in your numbers, and see professional results. Easily import your financial data from QuickBooks®.

**\$99**

WebCode: IN00016

Office Superset

Professor® Teaches Office Super Set is an all new, complete multimedia training super set for all of the leading Microsoft applications! 42 tutorials, on 10 CD-ROMs, offer the most up to date instruction from beginning to advanced features of each MS® Office software program. MS® Windows®, and several popular Web-creation programs.

**\$99**

WebCode: IN00017

Transparent Languages - I Can Speak

The top-rated language learning method that takes you from beginner to fluent speaker! At last, Language Learning software that really works. Guaranteed! From basic speaking skills to a mastery of the language, LanguageNow! is the comprehensive language-learning program!

**\$99**

WebCode: IN00018

IMSI Floorplan 3D Design Suite 9

FloorPlan 3D Design Suite 9 is a superior collection of tools for customizing, visualizing and planning entire home design projects – from concept to completion. It features powerful home design, landscape, basic deck and balcony tools, and more. Easily transforms ideas into stunning photo-realistic 3D renderings.

New Metric Version**\$75**

WebCode: IMS0030

Broderbund PrintMaster 16 Platinum

Experience the ultimate in creative freedom! Packed with more than 17,000 project templates and 280,000 premium art images, PrintMaster Platinum brings a world of endless projects possibilities. Simply pick a pre-designed template, or start from scratch. Personalise with photos, artwork, text and more, then print or share online.

**\$85**

WebCode: BRD0032

PrintMusic!

PrintMusic! lets you create publisher-quality sheet music at an affordable price. Enter notes quickly and easily with a mouse, MIDI keyboard, mp3, or scanner. Human Playback and 128 professional sounds ensure unsurpassed playback. Hybrid CD Supports Win98/ME/2000/XP Mac OS X and OS 9

**\$129**

WebCode: MAK0001

Scrapbook Designer Deluxe

Raise your passion for scrapbooks to a whole new level and turn every precious memory into a brilliant work of art! Enjoy exclusive art, fonts, borders, corner and more.

**\$49**

WebCode: BRD0035

Broderbund Family Tree Maker Deluxe 11

Brimming with advanced genealogy tools and inspiring creative resources, Family Tree Maker 11 Deluxe is the easiest and most complete resource for building and sharing your family tree.

- Get started in minutes with Quick Tutorials
- Create family trees, books, albums, multimedia scrapbooks and more
- Enjoy professionally designed templates
- Access a wealth of online resources

**\$99**

WebCode: BRD0033

Broderbund Mavis Beacon Teaches Typing 16 Deluxe

Mavis Beacon leads the way in providing the most complete and effective typing tutorial on the market.

- Customised Lesson Designer
- Adaptive Response Technology - dynamically adjusts lessons to your age and ability
- Over 150 specialised practice sessions
- 10 interactive arcade-style games
- Ergonomic video
- Bonus Microsoft Word training CD

**\$65**

WebCode: BRD0033

My Voice

CD vocal removal software masks the singers voice on an audio CD in real time. Change key (pitch) without affecting tempo (speed), or change tempo without affecting pitch. Ripper function converts CD to WAV or MP3. Record your own voice with included microphone, mix, add effects and burn session to audio CD. Win98SE/ME/2000/XP. Min Pentium III 850MHz. 64MB RAM. Microphone included.

**\$99**

WebCode: IPE0001

The Book of Pooh - A Story with a Tail

Help Winnie the Pooh and his friends find Eeyore's lost tail on a magical learning adventure through the Hundred Acre Wood! Let your kids learn with fun. Numbers, letters, word association, patterns, shapes & colour recognition are all components of this exciting adventure.

**\$19**

WebCode: DIS1000

Kid Pix Deluxe 4

Kid Pix gives kids virtually endless ways to draw and paint, colour and transform, animate and create tons of cool stuff.

- Realistic art tools including amazing 3D effects
- Photo Fun: paint or Draw on it! Spin, Pinch or Warp it!
- Sound Art
- Create slide shows, multimedia movies, digital storybooks and more!

**\$44**

WebCode: TLC0021

IMSI TurboCAD 10 Pro

A versatile 2D/3D CAD design application with powerful, world class, mechanical and architectural features.

- For academic and non-business use
- Full working version - upgradeable
- No student ID required
- No watermarks or expiry dates
- Compatible with over 25 CAD file formats including DXF, DWG, STEP, IGES, DGN and more.
- BONUS TAFE training CD

Full (IMS0031) \$918

**\$297**

WebCode: IMS0033

PrintMaster Greeting Card Deluxe

From greeting cards to note cards to stickers and beyond, PrintMaster Greeting Cards Deluxe delivers a world of creative possibilities right to your desktop.

**\$49**

WebCode: BRD0034

Jungle Book Year 1

Join Balu the bear and Mowgli the man cub in their adventures to find a magical object that will prevent Shere Khan the dreaded tiger from attacking and killing Mowgli. Through english, maths and science exercises help Baloo and Mowgli explore the ancient ruins and unravel clues to find the object that all tigers fear!

**\$28**

WebCode: DIS1001



e-spotlight

Barbie as Princess and the Pauper

Travel with Erika and Princess Anneliese throughout the royal kingdom on an adventure to prove that Erika is worthy to be queen. Explore each area of the kingdom as you meet and help villagers, solve puzzles and create beautiful items to complete each task in the Book of Royalty! Then, head back to the castle to decorate each area for the royal coronation! Now you're ready for the most magnificent celebration ever as Erika is crowned queen of her kingdom!



PC
WebCode VUG1011 **\$32**

Barbie Of Swan Lake

Help Barbie as Odette return battle the Enchanted Forest as you journey to 6 charming locations! Search for hidden items throughout the forest as you paint murals, create a field of musical flowers and more!



PC
WebCode VUG1010 **\$33**

Barbie As Rapunzel

Join Barbie as Rapunzel on a creative adventure to help break an evil spell in time for the grand Masquerade Ball! A terrible spell has ruined the enchanted castle and turned the handsome Prince Stefan to stone! Use your creativity and imagination as you go on eight magical adventures.



PC
WebCode VUG1080 **\$33**

Chessmaster 10000

Whether you are new to Chess or a tournament-level player, Chessmaster 10th Edition allows you to master history's greatest game. More than ever, Chessmaster 10th Edition delivers on its promise to make you a better chess player. The program will improve your game regardless of your level of experience.



PC
WebCode UB10176 **\$76**

Eye Toy USB Camera

Get ready for the peripheral that is set to transform console gaming forever. Once connected to a PlayStation2 console and positioned on top of a TV, the EyeToy USB Camera (for PlayStation2) literally puts you at the heart of the action by detecting your body movements and projecting your image onto the TV screen. You are actually in the game, all you have to do is move!



Sony Eye Toy & Eye Toy Play Bundle (SCE0118) **\$82**

PS2
WebCode SCE0203 **\$60**

Eye Toy Play

EyeToy: Play is the first games compilation for EyeToy, the revolutionary new USB camera device for PS2 that detects your body movement and allows you to interact with the onscreen action. Play offers up 12 hugely enjoyable party games. Up to four players can play consecutively in the multiplayer league, although you can squeeze as many personalised profiles for people as you like onto your Memory Card (complete with photos!).



PS2
WebCode SCE0088 **\$41**

Singstar Party Bundle - SingStar Game & Mic

SingStar Party is guaranteed to spice up any social occasion with its manic blend of multiplayer fun! The game measures players' pitch, tone and rhythm as they sing into the USB microphone, and analyses how well or badly they sing! Players can practice on their own or dive straight into the action - battling it out with up to seven mates in one of the many new multiplayer games, including competitive Duets, Solos and Battles, plus many other innovative variations on traditional party game modes.



Includes two microphones plus 30 original recordings & music videos

PS2
WebCode SCE0114 **\$82**

Singstar Party

The fun starts here with everything you need for a perfect party: 30 original party classics and music videos. Original videos included where possible. Playing SingStar Party is simple: Get your friends around, choose your track, pick up the mic and away you go! Play some fantastic party games, each involving your team in different ways!



PS2
WebCode SCE0013 **\$41**

iPods & iTunes Starter Kit

The Starter Kit gives both Windows and Mac music lovers everything they need to quickly and easily maximize their music experience. 416 page.



Disc & Book
\$51
WebCode PGN0009

Tricks of the eBay Masters

Exclusive tricks and advice from expert eBay users that help the reader win more eBay auctions - and make more money! 384 page.



Book-Paperback
\$32
WebCode PGN0007

Australian Guide to Online Genealogy

Written specifically for Australians, as a clear, easy-to-follow guide. The Australian Guide to Online Genealogy combines tips and techniques on how to use the Internet and how to begin tracing your ancestry. 384 page.



Book-Paperback
\$28
WebCode PGN0008

Belkin Nostromo n52 Speedpad

Built to conquer your enemy, the Nostromo SpeedPad n52 captures all the advantages of its critically acclaimed predecessor, the n50, and cranks up the juice with advanced options to dominate your game. It puts keyboard and gamepad functionality into one small and easy-to-use device, delivering more tools for customizing your game than ever.



\$55

WebCode: BEL0331

Logitech Extreme Digital 3D Joystick

When the pressure is on, your stick performance is the difference between victory and total oblivion. The Extreme 3D Pro twist handle joystick will never let you down. The 12 programmable buttons and 8-way rubber hat switch give you optimum control, personalized to your taste.



\$44

WebCode: LG3392

World of Warcraft Official Strategy Guide

This highly anticipated game allows players to participate in an online role-playing experience set in the award-winning Warcraft universe. 208 pages.



Book/Paperback

\$37

WebCode: PG0022

E-STORE

e-spotlight

The Sims 2

The next generation of The Sims adds 3D graphics, lifetime gameplay, life-like Sims, and more customizability. You've built your life around The Sims, now you can build a life for your Sims. The next-generation people simulator adds a new 3D engine that will make your Sims and their homes look even more alive and a new "Create-A-Sim" tool to create more detailed Sims. Your Sims' experiences will also remain imprinted in their memory throughout their life, and Sims personality traits will be passed on via DNA to their children. The choices you make throughout their lives will have a long-term affect their relationships with other Sims... from loving friendships to bitter foes. Prepare yourselves for the wild ride of your Sims lives in The Sims 2.



The Sims - Deluxe

There has never been a better time to buy the game everyone is talking about. The Sims Deluxe Edition combines into one premium edition the most popular PC game of all time, The Sims, as well as the top-selling Sims expansion pack, The Sims Livin' Large, and a host of all new exclusive features and content.



\$25

WebCode: EAG1024

The Sims Superstar

The Sims Superstar is a new expansion pack for the top-selling PC game of all time, The Sims. You can now realise fame and fortune as your Sims pursue the dream of being a Rock Star, Movie Star or a Supermodel and live the lifestyle of a celebrity. All new gameplay, new social interactions and a whole new in-game destination offer an all access pass to the world of superstardom. In The Sims Superstar, The Sims are ready for their close up.

(Requires The Sims 1).



\$23

WebCode: EAG1027

The Sims Unleashed

As fans of The Sims know, there has always been something missing from their virtual neighborhoods... pets. In The Sims Unleashed, players can now add furry friends to their Sims' families. An all new expanded neighborhood featuring parks, pet stores, cafes and markets will give the Sims and their new pets a variety of places to sniff, explore and meet their new neighbors.

(Requires The Sims 1).



\$23

WebCode: EAG1029

Rise of Nations Gold Edition

Includes both the original Rise of Nations, plus Rise of Nations: Thrones and Patriots! Which forces will you deploy to lead your nation to global prominence? Trade, espionage, diplomacy... war? Whichever path you choose, you'll experience the pulse pounding thrill and speed of real-time gaming combined with the epic scope and depth of turn-based strategy games.



\$61

WebCode: MSC3017

Age of Mythology Gold Edition

Enter an age when powerful heroes led mighty armies of fearsome beasts and warriors. A time when the gods could tip the scale of a battle with lightning, meteors, tornadoes and more. Start your conquest with the original award winning Age of Mythology then move up to the Titans Expansion.



\$61

WebCode: MSC3003

World of Warcraft

World of Warcraft is an online role-playing experience set in the award-winning Warcraft universe. Players assume the roles of Warcraft heroes as they explore, adventure, and quest across a vast world. With "Massively Multiplayer," World of Warcraft allows thousands of players to interact within the same world.



World of Warcraft Timecard (VUG7000) **\$32**

\$67

WebCode: VUG1127

Zoo Tycoon 2

Zoo Tycoon 2 gives users the ultimate zoo experience, putting users face-to-face with animals & guests in an all-new 3-D world. Enhanced building & management options let users go wild as they create & manage zoo habitats & attractions.



\$54

WebCode: MSC3018

RailRoad Tycoon 3

RailRoad Tycoon 3 will feature 25 scenarios challenging players to recreate magnificent feats of railroad history from around the world. Players will be able to lay track (this time with tunnels and overpasses), pick time with locomotives from early steams to modern bullets, choose to haul over 35 types of cargo in a dynamic economy, and participate in an advanced stock market.



\$53

WebCode: TAK1067

Jak & Daxter 3

Return to rescue Haven City from the deadly chaos caused by the three gangs fighting for control. Haven City's folk have grown to distrust Jak's dark powers and blame Jak for its current dreadful state. The Metal Heads are back and have destroyed the palace and even Ashelin cannot defend Jak as Count Veger forces Jak into exile and the harsh Island Wasteland. Daxter and Pecker remain courageously by his side and the three begin their next adventure where the battle for the city has just begun. Jak takes on a rugged new look and is suited with armour and is also now equipped with an arsenal of entirely new weapons with upgradeable mods.



PS2
WebCode SCE0118 **\$82**

Ratchet & Clank 3

The third installment of Ratchet & Clank incorporates new elements of gameplay not seen previously in the series, including online and offline multiplayer capabilities. Ratchet and Clank 3 returns gamers to Planet Veldin, the setting of the original Ratchet & Clank, where the duo set off on a gripping new adventure through a multitude of diverse planets to fight for galactic peace.



PS2
WebCode SCE0116 **\$80**

Star Wars BattleFront

An action/shooter game that gives gamers the opportunity to participate in all of the classic Star Wars battles. Select one of a number of different soldier types, jump into any vehicle and conquer the galaxy planet-by-planet online with their friends or offline in a single player modes. Variety of player modes include "Instant Action," "Galactic Conquest" and the story-based "Historical Campaigns" mode.



PS2 (EAG2054) **\$72**
XB (EAG3047) **\$72**
PC
WebCode EAG1072 **\$67**

Robots

Take wild rides in fast-paced robot vehicles, upgrade your gadgets with cooler, more useful parts, and team up with your trusty Wonderbot to solve challenging puzzles, battle evil bots, and explore a highly interactive 3D universe that brings the world of Robots the Movie to life.



PC (VUG1139) **\$42**
XB (VUG3026) **\$62**
PS2
WebCode VUG2024 **\$62**

Rayman 3 - Hoodlum Havoc

Adventurers beware - Rayman's universe has exploded into a whacked-out world of cartoon mayhem and mind-blowing battles! When Globlox accidentally swallows the Lord of the Dark Lums, a fanatic army of trigger happy Hoodlums wreaks total havoc to get their Lord back!



PS2 (UBI2013) **\$64**
XB (UBI3012) **\$41**
PC
WebCode UBI1056 **\$38**

Crash Twinsanity

A new evil has invaded the island paradise of Crash Bandicoot with sinister plans of destruction. In a strange twist, Crash reluctantly pairs with his arch-enemy, Dr. Neo Cortex, in order to save his world! Through their unorthodox partnership, Cortex is abused as Crash's favorite weapon when Crash and Cortex are controlled as one in all-new hilarious gameplay.



PS2
WebCode VUG2025 **\$56**

Crash Bandicoot The Wrath of Cortex

Crash is back to stop Cortex for good! By harnessing the destructive power of the Four Elements, Dr. Neo Cortex creates Crunch, a Super-Bandicoot with one mission...demolish all that lies before him. Will Crash and Coco be up to the challenge? You can bet your bandicoot they will!



PS2 (VUG2021) **\$40**
GC (VUG5009) **\$40**
XB
WebCode VUG3019 **\$40**

The Incredibles

Help save the world with The Incredibles! Intense superhero action and adventure combined with the unique graphical style and humor from the films creators. The only way to survive being The Incredibles is to truly be incredible!



PC (THQ0001) **\$45**
XB (THQ0003) **\$71**
PS2
WebCode THQ0002 **\$71**

Fable

Fable is a ground-breaking role-playing adventure game from Peter Molyneux, in which your every action determines your skills, appearance, and reputation. Create your life story from childhood to death. Grow from an inexperienced adolescent into the most powerful being in the world.



XB
WebCode MSG0001 **\$89**

Spyro - A Hero's Tail

Spyro must save the Dragon Realms from the Evil Red Dragon who has planted lightning-sapping Dark Gems all over the Dragon Realms in an attempt to capture and control the world. With the help of his allies, Spyro must seek out and destroy all of the Dark Gems to return the lands back to normal and to save the Dragon Realms from the evil dragon's tyrannical control.



PS2
WebCode VUG0013 **\$62**

Sony Playstation 2 Console

Get the latest and greatest gaming console available - PS2! The console comes with an Analog DualShock Controller and is able to play DVD's, CD's and even your old Playstation 1 games!



\$245
WebCode SCE0200

Sony Playstation 2 Console with BONUS Ratchet & Clank 3

Get the console and the latest Ratchet & Clank! Bundled with the PS2 console comes one of the most outstanding action games getting around. Return to Planet Veldin and get ready for the fight for peace!



\$305
WebCode SCE0050

Sony Playstation 2 Console with BONUS Gran Turismo 4

The latest game at a fantastic price bundled with the PS2 console. Be prepared for some serious gaming with the eagerly anticipated 4th installment of Gran Turismo!



\$295
WebCode SCE0122

Logitech Momo Racing Force Wheel

Turbocharge your driving with the authentic feel and precision performance of the Logitech® MOMO® Racing Force Feedback Wheel. Designed by the racing professionals at MOMO, the full rubber wheel, stick shifter, and racing pedals feel just like the real thing. And with advanced force feedback technology, you'll experience the road like never before. Strap yourself in and drive into the action!



\$145

WebCode: LOG2227

Logitech Precision Gamepad

Easy setup and precise control with a precise eight-way D-pad and six programmable buttons including two fast-action triggers. It's perfect for sports and action games, and the USB connectivity makes installation a snap.



\$15

WebCode: LOG3409

Belkin Nostromo n40 USB GamePad

For true, high-level action, look to the Nostromo n40. Its ten programmable buttons, accurate control, and great looks make it another of our revolutionary GamePad choices. Perfect for anyone obsessed with winning. The n40 ships with Belkin Nostromo Array Software bundled with pre-made profiles for the most amazing program options on the market.



\$33

WebCode: BEL080

E-STORE

e-spotlight

Gran Turismo 4

An absolute dream product for gamers and car enthusiasts alike, GT4 takes massive strides towards Polyphony's perpetual aim of crafting the 'ultimate racing game'. As with every previous game in the legendary series, GT4 sets new standards of graphical excellence on PS2, with an advanced new game engine that blends real-time action in the foreground with photo-realistic backdrops to absolutely stunning effect. Under the hood, you can expect similarly drastic innovation; GT4's awesome new physics model allows for the most realistic simulation of the characteristics and performance of individual vehicles to date.



PlayStation 2

GRAN TURISMO 4



PS2

WebCode: SCED112

\$82

BurnOut 3

Grab the wheel and hold on as you takedown the competition with the most spectacular ride this side of Hollywood. With over 100 events spanning 40 tracks, addictive multiplayer gameplay, and the most dramatic action ever seen in a videogame, Burnout 3: Takedown is a breakneck, adrenaline-fueled, awe-inspiring racing experience. Seatbelts not included!

• PS2 (EAG2001) \$44



XB

WebCode: EAG3002

\$44

WRC 4

Welcome to the most extreme sport on the planet. Take one driver and his trusty navigator, and fire them down the world's most treacherous dirt tracks, icy roads and mountain lanes in a highly tuned, turbo-charged car. Dangerous? Certainly. Exhilarating? Definitely. Fun? You betcha!



PS2

WebCode: SCE0111

\$44

Flight Sim 2004

Flight Simulator 2004: A Century of Flight lets you soar through aviation history at the controls of Lindbergh's Spirit of St. Louis, the Douglas DC-3, the Wright Flyer (the world's first successful powered aircraft), and other legendary aircraft.



PC

WebCode: MSC0111

\$76

The Simpsons Hit & Run

The Simpsons Hit & Run is a mission-based driving game featuring out-of-the-box platform action, the interactive world of Springfield, and the signature humor of the Simpsons.

• All character voices supplied by the cast of The Simpsons television show

• XB (VUG3011) \$40

• PS2 (VUG2014) \$40



PC

WebCode: VUG1071

\$40

V8 Supercars 2

V8 Supercars Race Driver brings the drama of live tire touring car racing to PlayStation 2 and PC screens. Gamers will really experience the aggressive close contact V8 Supercar race at a world class level when they take the track!



PC

WebCode: CMS0001

\$80

Fly To Hong Kong 2004

Get ready to experience the most realistic scenery ever created for a flight simulation computer program

• Includes 1000 more buildings, landmarks, shops and detailed street level action as never before seen in a flight simulation title

• Live Real ATC direct from Hong Kong is included for the ultimate realism

• To this version of Hong Kong is the 78-story Central Plaza, one of the tallest buildings in Asia (Requires MS Flight Simulator).



PC

WebCode: TAK1000

\$37

Need for Speed Underground 2

The sequel to the best-selling racing game of 2003. All-new game modes Join Circuit, Drift, and Drag events to add depth and variety, pushing car and driver to the limit, while more than a dozen new cars and hundreds of aftermarket parts from the biggest names in the business make Need for Speed Underground 2 the deepest, most authentic tuner experience ever.

• PS2 (EAG2021) \$80

• XB (EAG3023) \$80



PC

WebCode: EAG1017

\$52

Train Simulator 1

Microsoft Train Simulator brings the power and excitement of some of the world's most famous trains to your PC, placing you in the role of engineer or passenger with unprecedented realism, exciting real-world rail challenges, and the tools to recreate almost any railroad experience in the world.



PC

WebCode: MSC000

\$38

Combat Flight Simulator 2

• Veteran World War II pilots from both sides of the Pacific conflict help make every detail - from the roar of engines to radio chatter

• MS graphics technology brilliantly captures classic World War II naval fighters

• From mission briefings to award ceremonies, the bold look of Combat Flight Simulator 2 takes back to the 1940s & the fiery Pacific theater



PC

WebCode: MSC0004

\$23



e-spotlight

FIFA Football 2005

With an all-new animation system and first touch control, the most comprehensive soccer simulation ever created. The new animation system ensures that every button press is directly mirrored on the field, accurately reflecting the speed and vision of the world's greatest players. With a great first touch, gamers can trap and control the ball and use its momentum to knock it into space, flick it over a defender's head, or show off and score glorious goals.

- PS2 (EAG2006) \$72
- XB (EAG3008) \$72
- GC (EAG5001) \$72



PC
WebCode EAG1057 **\$52**

NBA Live 2005

Elevate your game on both ends of the court with NBA LIVE 2005. With EA SPORTS Freestyle Control, create awe-inspiring dribble moves, highlight-reel dunks, and tenacious defensive plays that express your individual playing style.

- All-new 10-man Freestyle adds individual player movements and spacing, creating a realistic feel like never before.
- PC (EAG1042) \$72
- XB (EAG3020) \$72



PS2
WebCode EAG1018 **\$72**

Total Club Manager 2005

TCM lets players live the modern day (up to 50 year) career of a soccer manager, training & pitting teams against the best clubs in the world. In addition to the usual different player level stats (which are affected by parameters like fatigue, fitness, morale, etc.), each player can also have two special abilities. Players can be loyal, not loyal, competitive consistent, free kick specialists, and much more.

- PS2 (EAG2035) \$72
- XB (EAG3038) \$72



PC
WebCode EAG1047 **\$52**

Tiger Woods 2005

This game challenges you to take on the man who has changed golf forever: Tiger Woods. The revolutionary new Tiger Proofing course alteration technology allows player to modify course dynamics and call out PGA Tour rivals by adding lengthier Tiger Tees, tighter fairways, dramatic undulations to greens, deeper bunkers, higher rough, and more.

- XB (EAG3036) \$72



PC
WebCode EAG1048 **\$52**

NHL 2005

Take part in the excitement of this year's World Cup of Hockey event featuring teams from USA, Canada, Sweden, Finland, Germany, Russia, Czech Republic, and Slovakia playing in authentic European and North American venues.

With more player awareness than ever before, make saucer passes just before the blueline, call in a second defender to break up a 2-on-1, or fire off wrist shots at the perfect angle on net.

- XB (EAG3025) \$54



PC
WebCode EAG1043 **\$52**

SSX 3

Embark on the ultimate adventure and conquer the mountain with SSX 3. Life begins at the summit where a wide-open mountain awaits you — board it, explore it, and beat it.

- XB (EAG3030) \$40



PS2
WebCode EAG2029 **\$40**

Madden 2005

Force the action on defense in Madden NFL 2005. New defensive tools allow you to make more plays and be in on all of the action. The all-new Hit Stick lets you lay the big hit to turn the momentum of the game in your favor.

- XB (EAG3017) \$72



PS2
WebCode EAG2015 **\$72**

ESPN NFL 2K5

ESPN NFL 2K5 features a Comprehensive Franchise Mode, Improved ESPN Presentation, Maximum Tackle System and more!

- XB (TAK3022) \$41



PS2
WebCode TAK2014 **\$41**

ESPN NHL 2K5

Poised to defend its title as the #1 rated hockey video game, ESPN NHL returns to the ice with the confidence of a seasoned veteran. Improved player control, an all-new fighting engine and lightning fast gameplay truly capture the feel and pace of NHL-caliber hockey.

- XB (TAK3023) \$41



PS2
WebCode TAK2015 **\$41**

ESPN NBA 2K5

Re-introducing the king of the court, ESPN NBA 2K5 changes the way we experience the virtual basketball game forever with a host of new graphical and gameplay improvements never before seen in sports video games.

- XB (TAK3024) \$41



PS2
WebCode TAK2016 **\$41**

Coming Soon to



The Sims 2
University Add On

EA Sports
Rugby 2005

AFL Live
Premiership Edition

The Age of Empires II
The Age of Kings

Metal Gear
Solid 3

Nascar 2005
Chase For The Cup

Star Wars
Republic Commando

Eye Toy
AntiGrav

Eye Toy
Monkey Mania

Check out the
latest games
and accessories
at estore.com.au/games!

Finished the
catalogue?
Now explore
the world!

Freelancer

Experience a vast, open-ended universe filled with an infinite number of adventures. You are the freelancer Edison Trent, an intergalactic jack-of-all-trades. Your mission: whatever you want. Become a smuggler or a ruthless space thug, a naval hero or a trader. Take the first step. The universe is waiting.



\$35
WebCode MSC1005

Sports Games

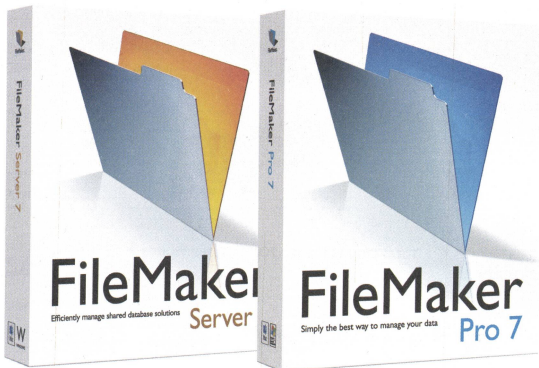
RENT SMART
Because buying isn't

SEE PAGE 3 FOR DETAILS

estore.com.au



csw.com.au



The best just got better.

Effortlessly manages even more of your information than ever before!

FileMaker® Pro 7 database is the #1-selling easy-to-use database software that effortlessly manages all your information. It helps you to gain insight into your business so you can make more informed decisions, and comes with robust security so you can be sure your data is safe. FileMaker Pro 7 helps you to organise and manage data effortlessly, so you can uncover the critical business information your data contains. Now you can turn your ideas into productive, creative, and customised solutions that you can tailor to solve your specific business problems, and share them with your whole workgroup.

High-performance server software

FileMaker Server 7 is high-performance server software that lets administrators efficiently manage shared FileMaker Pro 7 database solutions. With easy-to-use advances in sharing and administration, as well as enhanced security features, FileMaker Server 7 enables individuals and teams to access business-critical information, work collaboratively, and increase productivity. FileMaker Server 7 is an ideal information sharing system for all kinds of organisations who have teams from 2 to more than 250 members who need to access and share data of all types, and to do so frequently and effortlessly as though they were all seated in cubicles in the same department.

Full Version

\$450

WebCode: FIL0132

Upgrade

\$227

WebCode: FIL0134

Academic

\$238

WebCode: FIL0135

5 User

\$2222

WebCode: FIL0136

5 User Upgrade

\$1133

WebCode: FIL0137

5 User Academic

\$1188

WebCode: FIL0138



FileMaker Applications

3 FREE Applications with FileMaker Pro 7 Worth over \$360

Buy FileMaker Pro 7 between 1st January 2005 and 25th March 2005 and get three great FileMaker Apps worth over \$360 completely free of charge if you register your product online. FileMaker Meetings, Tasks and Work Requests are ready-to-use fully featured applications created by FileMaker to work hand-in-hand with FileMaker Pro 7.

For details, go to csw.com.au/filemaker

Or, if you have already purchased a copy of FileMaker Pro 7 and cannot take advantage of this offer, then there is a special 50% off bundle of the 3 Applications on the FileMaker web store available to existing customers.



You Choose: Great value – or great price

Purchase a new Volume License Agreement of FileMaker Server 7 or FileMaker Server 7 Advanced, with at least 9 seats of FileMaker Pro 7, and receive a FREE copy of FileMaker Developer 7. Or, if you already have FileMaker Developer and you are buying between 10 and 24 seats, we will offer you our special Tier 2 price, usually only available to customers buying 25-49 seats. This offer is valid between 1 January 2005 and 24 March 2005, for further details go to csw.com.au/filemaker

Contact our Managed Accounts Team on 1300 761 671

CALL OF DUTY

LISTEN UP SOLDIER!

GET IN THE GAME WITH THE LATEST AUDIO WEAPONRY

Sound BLASTER
AUDIGY 2 ZS

The only way to capture the vivid intensity of battle in Call of Duty™ is from the action packed sound of the new Sound Blaster® Audigy® 2 ZS.

Hear the distinct clarity of artillery exploding all around you from dramatic EAX® ADVANCED HD™ environmental effects in 7.1 surround. Report now to www.australia.creative.com

Get in the battle – Get Creative.



Stand alone Sound Blaster Audigy 2 ZS sound card also available



**CREATIVE
INSPIRE**

We recommend CREATIVE INSPIRE T7700 speakers for total surround gaming effects.



ACTIVISION



Get **CREATIVE**

Shop 3-5, 524 Parramatta Rd, Parramatta, Sydney, Ph: (02) 9321 9800

©2003 Creative Technology Ltd. The Creative logo is a registered trademark of Creative Technology Ltd. in the United States and/or other countries. ©2003 Activision, Inc. and its affiliates. Published and distributed by Activision Publishing, Inc. Activision is a registered trademark and Call of Duty is a trademark of Activision, Inc., and its affiliates. All rights reserved. Developed by Infinity Ward, Inc. This product contains software technology licensed from Id Software ("Id Technology"). Id Technology ©1999-2000 Id Software, Inc. All brands or product names listed are trademarks or registered trademarks and are property of their respective holders.

AUSTRALIA'S FAVOURITE

OZEMAIL
I N T E R N E T

OzEs are too smart to get fleeced

no excess charges on
all new broadband plans

OzE STARTER 256kbps 300MB BROADBAND

\$29.95 FLAT RATE
PER MONTH

choose between

- free line activation on all new 6 month plans†
- the freedom of no contract

no excess download charges
on all new broadband plans

after 300MB speed slowed to dial-up speed for
the rest of your billing cycle

Unlike some broadband plans, OzEmail Broadband has no excess download charges or hidden extras to pull the wool over your eyes. Once connected, you'll only pay the monthly fee. And you don't even have to bundle your other phone services to get this great deal. So why follow the flock, when you can be an OzE?

call 133 593 or visit ozemail.com.au

† Offer valid for a limited time only. OzEmail Broadband subject to availability in your area. Minimum plan cost: 6 month plan OzE STARTER \$179.70 (plus \$99 modem if required); no contract OzE STARTER \$120.95 (plus \$99 modem if required). All based on self installation. Full terms and conditions at ozemail.com.au.